SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

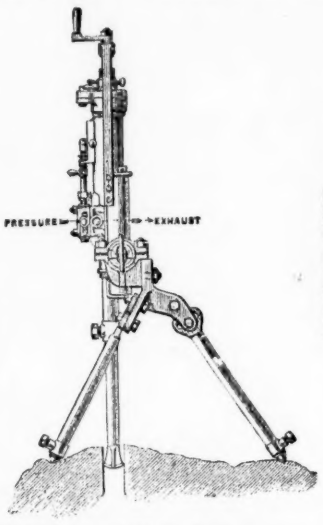
FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.*]

No 2378.—VOL. LI. LONDON, SATURDAY, MARCH 19, 1881. PRICE (WITH THE JOURNAL) SIXPENCE. PER ANNUM, BY POST, £1 4s.

"Cranston" Rock Drill

IS DRIVING LEVELS 200 LINEAR FEET PER MONTH IN HARD QUARTZ ROCK. "EBERHARDT" TUNNEL AND DRIFT IS NOW DRIVEN IN OVER 6162 LINEAR FEET WITH THESE DRILLS AND COMPRESSORS.



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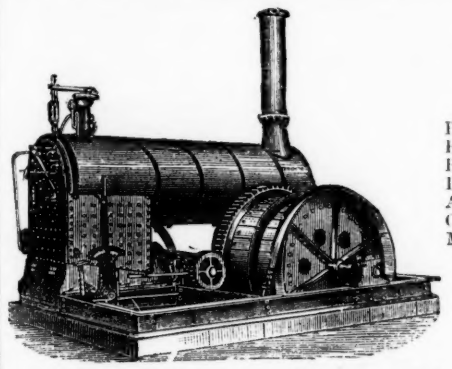

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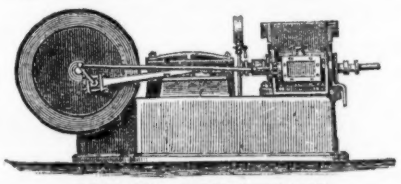

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It makes two bricks at once, and will make 2,000 to 14,000 plastic pressed bricks per day, hard enough to go direct to the kiln without drying; or it will make the bricks thoroughly plastic if required. For works requiring a machine at less cost the machine is made to turn out one brick at once, and is capable of producing 8000 bricks per day.

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[*See Illustrated Advertisement every alternate week.*]

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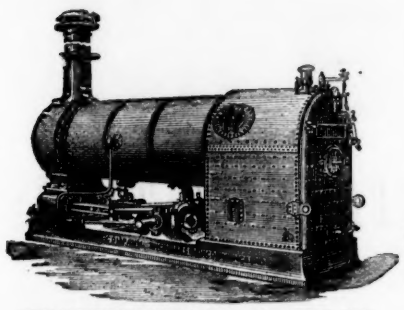

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4 to 50-horse power.

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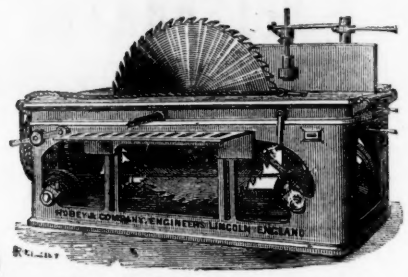

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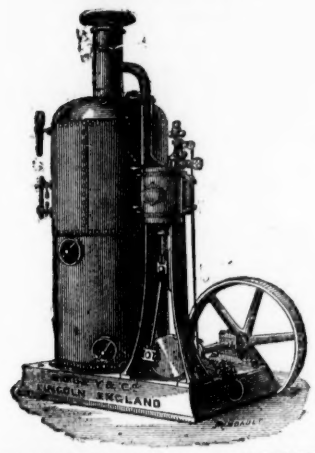

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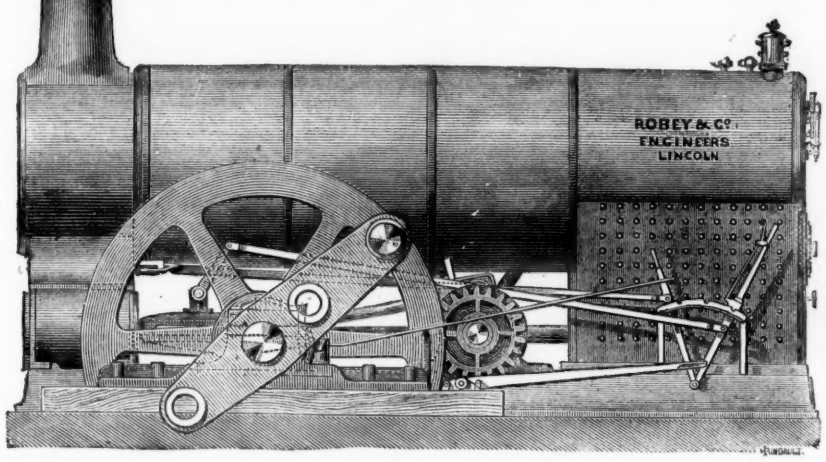

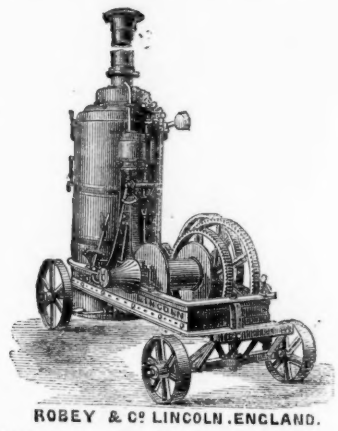

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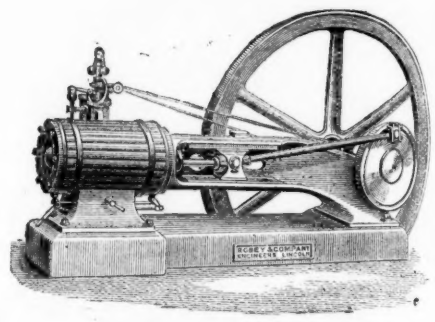

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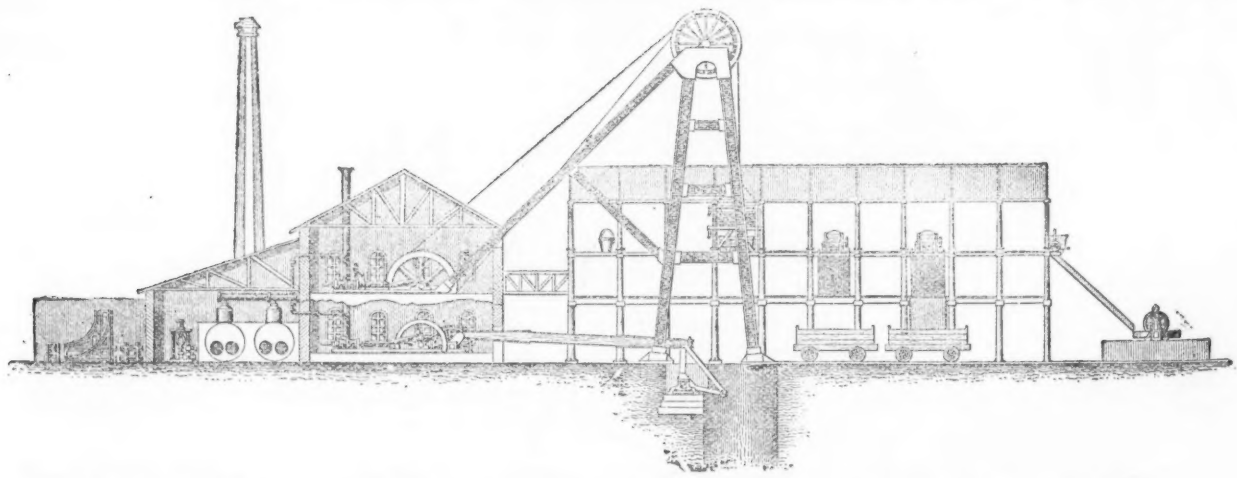

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STEVENS' PATENT UNDERGROUND WINDING ENGINE,

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SIMPLE, COMPACT, PORTABLE.

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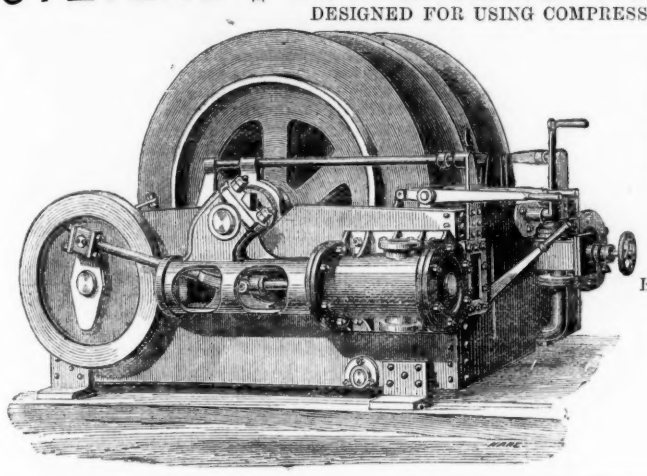

No. 1 size, 7 in. single cylinder, with 2 ft. drums.
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A,— 6 in. double cylinder, with 2 ft. 3 in drums
B,— 8 in. „ „ 3 ft. 0 in drums.
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E,—14 in. „ „ 5 ft. 0 in. drums.

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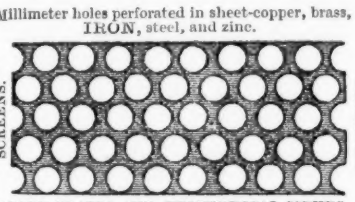
Millimeter holes perforated in sheet-copper, brass, IRON, steel, and zinc.

In flat plates or shaped to any diameter. SCREENS.



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Lineal holes per inch woven in copper, brass, iron, and steel wire.

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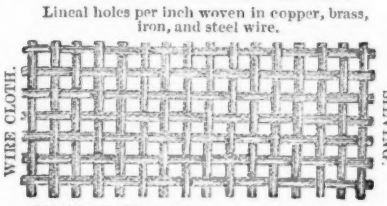
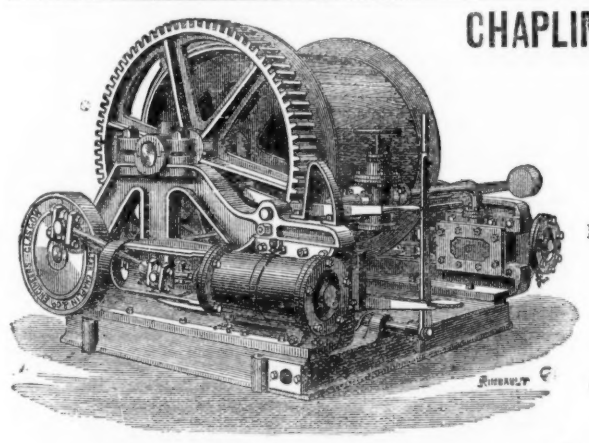


Strong web, the cross wires equally bent. SIEVING.

JIGGER-BOTTOMS AND CRUSHER SIEVES.

Manufacturers of Stamps-Grates, Sieves, and Riddles, for Mining and other purposes, by Self-acting Steam Machinery.

SPECIALITY.—Thick Copper, Brass, Zinc, and IRON Perforations, Classifying-Sieves, Pierced Pulveriser and Stamps-Grates up to 324 holes to the square inch, Conical-hole Copper Jigger Plates and round bottom "Sifts," Spigot and Faucet Zinc Air-pipes, &c.



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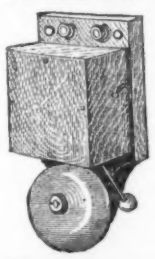
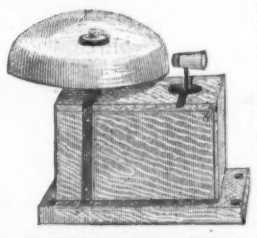


AND OTHER TELEGRAPHIC APPARATUS FOR MINES, &c.

Prize Medal - - - London, 1862.
First Prize - - - Sydney, 1879.



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PARIS, BRONZE MEDAL, 1867.

ORDER OF THE CROWN OF PRUSSIA.

FALMOUTH, SILVER MEDAL, 1867

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE McKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was **121·30 metres, or 133 yards.**

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (7½ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them value unapproached by any other system of Boring Machine.

THE McKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUNNELLING, QUARRYING, AND SUB-MARINE BORING.

The McKEAN ROCK DRILLS are the most powerful—the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts—have no weak parts—act without SHOCK upon any of the operating parts—work with a lower pressure than any other Rock Drill—may be worked at a higher pressure than any other—may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool—work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against and accidents. The various methods of mounting them are the most efficient.

N.B.—Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS, AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

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ENGINEERS
OFFICES,
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MANUFACTURED FOR MCKEAN AND CO. BY
MESSRS P. AND W MACLELLAN, "CLUTHA IRONWORKS GLASGOW

HEPBURN'S PUMP LEATHER WATERPROOF

By a special method of preparation this leather is made solid, perfectly close in texture and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

HEPBURN AND GALE,
TANNERS AND CURRIERS,
LEATHER MILL BAND AND HOSE PIPE MANUFACTURERS,
LONG LANE, SOUTHWARK LONDON
Prize Medals, 1851, 1855, 15 for
MILL BANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES.

THE UNDERSIGNED, having secured the Grants of several VALUABLE MINERAL PROPERTIES (TIN AND COPPER), in the St. Blazey District, in the vicinity of Fowey Consols, &c., is DESIROUS of OBTAINING the CO-OPERATION of CAPITALISTS for their EXPLORATION. There is little or no risk involved in the undertakings, and the capital required in each case is very limited. R. SYMONS.
11, Parade, Truro, 3rd February, 1881.

MAP OF CALLINGTON, CALSTOCK, AND TAVISTOCK MINING DISTRICTS.

Proposed to be published by subscription, a MAP of the ABOVE DISTRICTS, showing the names and boundaries of all existing setts, lodes, cross-courses, and every other matter which such a map should contain. Persons disposed to patronise the publication—at One Guinea per copy—will please send their names as early as possible to me. R. SYMONS, Mineral Surveyor, Truro.
February 3rd, 1881.

TO PARENTS AND GUARDIANS.

AN ELIGIBLE OPPORTUNITY is now offered for the SETTLEMENT of an ACTIVE YOUNG GENTLEMAN IN CANADA. He will be enabled to obtain his profession as a Solicitor in five, or if he be a Graduate in three years. Cost of living about £150. In the meantime he will have active work, and obtain a knowledge of the Dominion, which is destined to become one of the most prosperous of the Colonies. Premium, £100 sterling.
HERBERT C. JONES,
32, Wellington-street, Toronto. Canada Land and Loan Agency.

Original Correspondence.

NORTH WALES PERMANENT RELIEF SOCIETY

SIR,—Your North Wales Correspondent refers in last week's Journal to some remarks made by me at the inquest on the body of the man killed at the Brynkinalt Colliery, with reference to the benefits to be derived by members of the society, and states that "by a contribution to the fund of 2d. per week a member secured to his family in the event of his death the sum of 1*l.* per week." I am glad that he has drawn attention to the subject, but take this (the earliest) opportunity of making a correction on an important point. In this particular case the widow would have been entitled to 1*l.* per week had her husband been a member of the society, but the scale of payments vary, as will be seen on reference to the accompanying "Table of Contributions and Benefits:"—

CONTRIBUTIONS.

Entrance fees (after first 12 months)	1s. 0d.
Weekly contribution (from the registration of these rules)...	0s. 2d.

BENEFITS.

ACCIDENTAL DEATH.

Member, leaving no dependent relatives qualified under Rule 3...	£20
ditto leaving such dependent relatives:—	
Funeral allowance	£5
Widow, per week	5s. 0d.
Each child under age, per week	2s. 6d.

DISABLEMENT.

During the whole period he is unable to work from the effects of the accident ..... 6s. per week.

The progress of this society has been most satisfactory, the number of members having since its commencement, in 1878, been increased to 7000, or three-fourths of the total number of persons employed about the collieries in North Wales. JOHN L. HEDLEY.

The Gables, Chester, March 15.

THE EMPLOYERS' LIABILITY ACT, AND MINE CLUBS.

SIR,—Doubtless there are many besides "Observer" who were opposed to the Western District Mine Clubs, but are somewhat surprised at the figures, and are now convinced that the central scheme can be efficiently and economically worked. To such we would say, "Go forward," work for its accomplishment, which would cause the hearts of the widow and fatherless to rejoice, to make our old men jump for joy, and our adventurers to laugh, because they would have the "best of the bargain." In doing so do not pamper to the passions of the miners, but educate them; do not descend to their level, but raise them to your platform.

I will give a case which occurred, not in the Siberian mines a century ago, and which my next door neighbour's sister's husband's great grandmother, straw bonnet maker, heard of somewhere. In one of our mines in 1881 my own comrade cut his hand by means of a splinter whilst moving some heavy timber; the water poisoned it to such an extent as to render amputation necessary, the whole hand being poisoned, and for six weeks he could not sleep two consecutive hours, being in agony. He wrote to the agent about club money. I also asked about his club money—knowing that 1s. 6d. was monthly deducted for doctor and club—and was told there was none, or rather "No." In communicating this sad news to the father of seven children, I confess, Mr. Editor, pachyderm as I am, and inured to sorrow, the tear involuntarily rolled down my cheek. I stamped violently in righteous anger, and asked—

> "What is man?
> And what man seeing this, and having human feeling,
> Does not blush and hang his head
> To own himself a *man*?"
> "Man's inhumanity to man makes countless thousands mourn."

Nothing can be mismanaged for an indefinite period, and I write feelingly. Perish mining! if it cannot exist without such acts of damnable injustice being perpetrated. I thank God most sincerely that such cases are rare, but they are possible under the present system. I, as a unit, wish to remove—and shall do so—the power from such despots, who rejoice to "persecute the poor and needy man, who even slay the broken in heart."

There is work for you, "Observer;" there is a large field for your penetrating talent, either in downright, solid, adverse criticism, or in disseminating the statistics amongst mining agents and miners, and you will then hear the "God speed you" coming from hearts untarnished by duplicity.—*March* 11. EDWARD SKEWES.

GOVERNMENT INSPECTION OF COLLIERIES.

SIR,—I have just seen an announcement that a gentleman, presumably unconnected with mining, and, therefore, not in any way competent to pronounce any useful opinion, has advised the Home Secretary to increase the number of Government Inspectors, of whom there are already 22, and some of these have so little official work to do that they are glad to devote the greater part of their time, which would otherwise hang insufferably heavy on their hands, to the compilation of scientific and semi-religious papers for reading before local societies. That a gentleman may be thoroughly competent as a barrister to represent—or, in plainer English, to watch—the case on behalf of the English Government is one thing, but to advise the Home Secretary upon the appointment of Inspectors requires other and far greater knowledge. At the Penygraig Colliery explosion enquiry Mr. Wright, no doubt, performed his duties satisfactorily, but it can scarcely be supposed that a man of Sir William Harcourt's experience would consult a lawyer upon a question that could only be answered by an engineer.

It has often been stated in the Journal, and the truth of the statement has been acknowledged by both Houses of Parliament, that it is undesirable to relieve colliery officials of any of the responsibility at present thrown upon them; and, this being admitted, the number of Inspectors at present employed is ample. MANAGER.

March 16.

THE DYNAMITE FUND.

SIR,—In the Journal of last Saturday on page 300 a correspondent has contributed his strictures on appropriation of any surplus. The whole of his remarks display an amount of ignorance only surpassed by his narrowmindedness. He neither knows the amount of the fund raised, by whom, nor the amount of solicitors' costs exceeding the taxed bill; nor the intention or recommendation of the committees. Whatever surplus, if any, will be distributed *pro rata* if so desired by the contributors. Your correspondent fears the funds may go to the Miners' Hospital. Could they be better bestowed? The excellent medical attendance; the superior diet; and the kind attention of the nurses, as proved by all who have been unfortunate enough to remain within its walls for a short or long period, are strong claims upon us. The Cornish adventurers desire only that what Cornish mines have contributed should, if any surplus remains, be bestowed on the Miners' Hospital—a praiseworthy offering, and only too small in amount. To the success which attended the committee's efforts all have to express their thanks and acknowledgments to Mr. John Darlington, one of their committee, who through his practical knowledge of the subject, and his wide experience of mining in Germany, as well as his dissection of the accounts, contributed largely to the result so beneficial to all interested in mining by the destruction of this monopoly. At the earliest opportunity a balance-sheet will be issued of subscriptions and expenditure to all interested; until then I trust your correspondent will restrain his effusions of ignorant twaddle.—*March* 15. H. WADDINGTON.

PRACTICAL MINING—EXTRACTION OF COPPER FROM ORE.

SIR,—Any correspondent informing me through your valuable Journaal how copper ore of 4 per cent., existing under the following conditions, could be profitably extracted would much oblige—1. The ore occurs principally as carbonates in friable limestone, from which it cannot be extracted or separated by dressing, as it is almost the same weight as the limestone.—2. It occurs in abundance, and can be easily mined.—3. Owing to the distance this ore deposit is situate from a shipping port no profits can be made by sending the ore to England.—4. Coke would cost about 2*l.* 15s. per ton delivered on the ore deposit.—5. About three miles from this deposit several lodes of red iron ores crop out at surface, containing about 2 per cent. of copper. ESPANOL.

SOUTH EAST WYNAAD GOLD MINING COMPANY.

SIR,—I should much like to see regular reports of the operations carried on at this company's property. The encouraging accounts published by neighbouring companies so regularly must be very gratifying to the proprietors, and have, no doubt, been the principal cause of the steady rise in the price of their shares, and I think the corresponding decrease in the value of shares of the South East Wynaads is mainly to be attributed to the paucity of reports as to how our property is being developed, and when it is hoped the machinery will be erected.

Surely South East Wynaads should be worth more than Indian Phœnix shares, in the latter of which I bought last December, and have only just got my first transfer! I do not wish to see my South East Wynaad shares driven up to a fictitious height by startling telegrams of wonderful rich discoveries, &c., but I do want to know how we are getting on. I shall have no fear as to the result when we do make a start, but do let us have some idea of when the start will be made. SHAREHOLDER.

HALLETT v. HOOVER HILL GOLD MINING COMPANY.

SIR,—The remarks on the above case in last week's Journal are, I think, rather calculated to mislead. You say "the Court refused the injunction because the appellant failed to make out his case." The Times report runs thus—after hearing the plaintiff's counsel—"The Vice-Chancellor said that, looking to the consequences which would follow if this contract were stopped, he could not grant the injunction upon the mere *ex parte* application of the plaintiff. Mr. W. Pearson, Q.C., asked that the motion should be refused with costs, but the Vice-Chancellor said he should simply make no order upon the motion, except that the costs of it should be reserved."

Further on you speak of the drop from 2 prem. to ¼ dis. in 48 hours. This is certainly an error. At no time have they been quoted at either price. On the day the prospectus was issued they touched 1½ prem. for a few minutes, but closed at ¾ to 1 prem., since which time they have gradually fallen to 3-16th, 5-16th prem., at which price they closed on Thursday last. On Friday they fell to 1-16th dis to 1-16th prem. about 12 o'clock, but closed at 1 to 1⅛, present price. I hold a large number of shares, and enquired at the office of the company on Friday last (as soon as I saw a report of the action), and was assured that the statements made by the plaintiff are incorrect in every particular, but that the committee of the Stock Exchange will not be asked to appoint a settling day until the trial has come off, thereby proving that litigation has not ceased.

Personally I have every faith in the undertaking; and the names of the directors, accountants, and brokers should be sufficient to reassure the most timid, but upon making enquiries amongst numerous shareholders, I find that a veritable panic seems to have possessed them, and they are willing to accept the plaintiff's statements as facts without hearing the other side. BONDHOLDER.

Chiswick, March 14.

MINING IN COLORADO—QUARTZ HILL.

SIR,—I see in your valuable paper a company has been formed to work a property near Central City, Colorado, called the Quartz Hill Consolidated Gold Mining Company, and having a thorough knowledge of this locality perhaps a few remarks would not be out of place. Quartz Hill was well known to me for several years, and for mining purposes it has turned out one of the richest in the neighbourhood of Central City. It contains several lodes, and some of them have given considerable returns at a very shallow depth, but the one that has stood out the most prominent for profits is the Kansas lode; this is a true fissure vein, and has been very productive in several places, and has been worked by different companies of men with considerable success, but the productive parts in the property is worked down to a great depth, and without doubt the most remunerative portion is worked away, hence their object in putting it into a London market, because they now require extra machinery to go below the points reached; and extra machinery means extra expense, and without great economy is exercised the profits will be small indeed. I see by the prospectus that Mr. Fagan is to be the resident manager, but I would advise the directors to be wise in time, and to appoint a sub-agent to watch their interest a little, for it is not all Americans that walk in the narrow path, for it is still fresh in the memory of a great many in Central City how Mr. Robinson was served after his purchase of a mining property on the same hill in 1871, that before the company sent out their agent the ores went every way except the right way, which subsequent returns showed.

Gwennap, March 16. MATHEW JAMES.

EUREKA (NEVADA) MINING DISTRICT.

SIR,—I have the pleasure to send you my usual budget of new from this mining centre:—

The snow has been unusually deep on Prospect Mountain of late, although Eureka has been comparatively free of it.

I hear that should the present weather continue there will be no danger of the furnaces being obliged to suspend for want of coal, but should another snow-storm set in it is more than probable they will have to do so. The public generally will pray for no more bad weather.

The chances are favourable that none of the furnaces will be compelled to close down for the want of charcoal.

There are but few mines on the Pacific Coast that are now producing $100,000 per month. We can call to mind only three that are doing this thing in the State of Nevada. These are the Northern Belle, in Esmeralda county, and the Eureka Consolidated and Richmond.

The work of grading the ground for the machinery of the Eureka Consolidated still continues, and the ground will soon be ready for it. In the meantime work in the new shaft has been entirely suspended, and will not be resumed until the machinery is in position to control the flow of water.

Eureka Consolidated—Old Reliable—has come to the front with its monthly dividend of 50 c. per share,

Several Prospect Mountain miners will shipore as soon as the weather permits.

A shipment of ore is to be made to-day from the California.

Work has been suspended on the Oriental Consolidated Mine until spring.

A noted Adams Hill property has changed hands, and with the opening of spring will be thoroughly worked and developed. With proper efforts more mines could be sold to Eastern parties, and the boom that must come eventually be accelerated.

One of our most prominent merchants predicts a lively business in the spring.

The Deadbroke series of mining claims, consisting of the Deadbroke Mine, containg 600 linear feet, has produced from the surface down to the tunnel over 100 tons of ore, consisting of galena and gray carbonates, averaging from $100 to $160 silver per ton, and 65 per cent. lead, also a small percentage of gold.

The mine is open through a tunnel 300 ft. in length. They have cut the ledge at the distance of 200 ft., and have connected with the old workings at 225 ft., facilitating ventilation for a greater depth. The total depth from the surface at present is 200 ft.; there is about 1000 ft. of work done on the mine.

The New Year Mine, south of April, adjoining the Deadbroke, contains 800 linear feet, with the same character of ore. The work performed on this mine amounts to about $1000. All of this property is covered with a U.S. patent.

Triangle No. 1 is a location lying east of the Deadbroke and New Year Mines.

Triangle No. 2 lies west of the New Year and Deadbroke Mines, and contains the same character of ore. There has been some ore taken out. Considerable work has been done on this claim.

The Volk and Piantoni Mine contains 350 ft. This mine is opened by a tunnel 150 ft. in length. Its present depth is 140 ft. There have been several tons of choice ore extracted. The nature of the ore is gold quartz, averaging $240 gold and from $20 to $30 silver per ton.

All of the above properties are situated on the western slope of Prospect Mountain, southerly and westerly of the Williams, Silver Connor, and Metamoras Mines. RUBY HILL.

SENTEIN MINING COMPANY.

SIR,—In the Journal of Feb. 26 "A Shareholder" asked what the dressing machinery made by Mr. Green and myself cost, and the amount of ore that can be returned now?

For dressing machinery the amount of my bill was 325*l.* This was for two water-wheels, one crusher, three jigging machines, consisting of nine plungers, and fitted with copper cylindrical sieves and bottoms, one separate, and also one double set of copper bottoms for the jiggers made on the mine. The company fixed all the work and paid freight. The directors stated at their first annual meeting that they were now able to dress 30 tons of silver-lead ore and 45 tons of blend per week. During the first five months that the machinery was working they sold 4806*l.* 12s. 9d. worth of dressed ore, at a cost of dressing of 972*l.* 10s. 7d.

In your issue of March 5 Mr. Green states the produce of the mine cannot be as good as it was. There is every reason to believe that it is quite as good if not better than when the first hundred tons were broken. The stock of ore on the mine not dressed was estimated at 7268*l.* We cannot then suppose this to be very poor stuff. One of the small crushers, condemned at Sentein by Mr. Green as useless, has been taken to another mine and fixed, and a correspondent writing, says:—We are returning about 1000*l.* of ore per month from the hardest stone in the world; the little crusher works well.

It is no wonder the Sentein shareholders are crying out seeing they had a good mine, and paid 10 per cent. on the first return of ore sold the first five months the machinery was working, and having such a stock of ore ready for dressing in addition. Mr. Green declined to answer your reader's enquiry as to the amount of ore that can be dressed by his new machinery, and the probable working cost. In Mr. Green's first letter he stated the secretary ought to answer the enquiry, and in his second the directors. It looks as though he would like to escape behind the backs of someone, and merely says how badly the machinery was doing its work, and the man who made it could have had no idea of ore dressing, &c. Let him give you figures, that is what is wanted. He also repudiated the idea of such an amount of ore being returned. The gentlemen on the board of directors are far too honourable to give false figures in their report.

Truro Foundry, Truro, March 10. FRANCIS DINGEY.

MARBELLA IRON ORE COMPANY

SIR,—I have on many occasions been greatly indebted to a number of your correspondents in pointing out mines whose shares have now greatly increased in value. I have often wished to repay them the obligation I am under. I have now an opportunity, and beg to bring to their notice the shares of the Marbella Iron Ore Company. It is at all times a very delicate matter to advise anyone what to do with their money, and I feel that people may imagine that it is done to benefit oneself or his friends; this I must say is in this case not true, my only wish being to try and benefit those whom I have received benefit from. The Marbella Company is now in full working order, and has more orders than it can possibly supply from America, where the ore is much prized, and in fact where it cannot be done without; this of course makes the company quite independent of the home trade, which presently is in a far from flourishing state. With calculations upon their present output and price the company are earning a profit of nearly 20 per cent. upon the ore, and with their shares selling at 85s. is undoubtedly the cheapest share in the market. My opinion of the shares being so low is that it is generally understood that the mines are dependant upon the iron trade of this country; this, as I have pointed out, is a mistake, they can send more than a years' output to America at the profit I have mentioned, the American ironmasters having more orders than they possibly can supply. I know of four very heavy purchases of shares of this company for ironmasters who have now implicit faith in the company. I would strongly urge any of your correspondents who wish to hold a cheap, progressive, and sure mining share to purchase on the Glasgow Exchange the shares of the Marbella Iron Ore Company.

Glasgow, March 17. A SCOTCH MINING ENGINEER.

THE SILVER PEAK MINING COMPANY.

SIR,—I beg to inform you that the agent sent out to the United States by the directors of this company to verify the titles and take possession of the property has returned, and the company now hold the same, together with the valuable plant and machinery already erected, and arrangements will be made forthwith for Mr. Taylor proceeding to Colorado to carry out his plans for opening up and fully developing the mines, and erecting the reduction and smelting works. While in New York our agent was introduced to a gentleman for many years acquainted with the locality of the mine, and upon request he wrote a letter to our agent, a copy of which is enclosed. I am informed that Mr. Hill is a gentleman of the highest position, and on whose word most implicit confidence may be placed

King William-street, March 17. M. PHILLIPS, Secretary.

SIR,—In compliance with your request to give you my views upon paper, as expressed to you verbally, upon the San Juan country and its mines, and more particularly as to my impressions as to the future of your tunnel company, I will do so as briefly as possible. The fact is that little more need be, or can be, said of the San Juan Mineral Belt than has already been said, written, and extensively published, as the opinions of the most experienced of mining and scientific men of both continents, and anything that I can say of my own positive knowledge, gained from a residence of several years in that country, is but to reiterate that which has already been said and reported upon by far abler pens than mine. I have, however, had more or less mining experience in many of the principal mining camps of Colorada, and without saying anything in disparagement of other portions of the State which contain many properties of great value, and still greater promise, I am compelled to believe that the San Juan excels them in all actual wealth. I think we may safely challenge the world to show the surface development as is there shown, of eminence, real, true fissure veins. Cutting the mountains from centre to dome, passing from valleys through mountains to valley beyond, clearly defined, and plainly seen for miles in the distance. The matrix of these veins being quartz, is much more impervious to the action of the elements than the adjoining rock upon either side of the vein, which becomes disintergrated and falls or washes away, leaving the vein exposed, and often cropping many feet above the surrounding surface. As a rule, the pay streak, or solidfied ore vein, is found cropping or coming to the surface in nearly all of these veins. The ore, generally speaking, is argentiferous galena, although silver is found in about every known form, more or less.

So far as the mines have been developed that I am at all acquainted with, they have greatly improved as depth has been gained upon them, the galena running into grey copper, carrying a greater amount of silver, or into brittle or ruby silver. Again, as a rule we find upon working those veins that almost without exception we have that which the experienced miner most prizes as certain evidence of true fissures, well-defined walls. While all of the above and very much more might be said of San Juan county and the entire country known as the "San Juan," I believe the crowning effort of nature to place the precious metals at the disposal of mankind to have reached its maximum in the vicinity of the forks of the Anima river—where it has also placed the apex of that portion of the continent. A glance at the U.S. survey map by Hayden shows the waters running from this location in every direction, and forming the head waters of some of the largest rivers of this continent. In my opinion the projectors of your enterprise have shown very great wisdom and foresight in selecting the mountain, I think pre-eminently the most lavish in its display of mineral wealth of all in this favoured country to be cut by your tunnel. As regards working during the winter, you need have no apprehension whatever, provision being made during the summer and fall months for your supplies, and with substantial houses for your machinery and the comfort of your men, your work will proceed with just as much ease and rapidity as at any other season. Being exclusively underground work, your men know no difference between day and night, much less about the change of seasons. I find it to be the opinion of parties who are experienced and who have given the subject thorough investigation and study that ores can be reduced and treated in the immediate vicinity of your property, and the bullion deposited in Silverton, to far better advantage than the same ore could be taken there or elsewhere and treated.

A detailed statement of arguments and reasons would be too lengthy for this letter, which I had hoped to make brief. In conclusion, let me add that with the advent of railroads and other facilities for transportation, the want of which has been very much felt heretofore, and under the immediate management of so experienced and thoroughly competent a manager as Mr. Taylor, whom I understand is to have charge of your work, I can see no reason why your

enterprise will not be one of the grandest successes of any venture of which I have any knowledge. JAS. L. HILL.
New York, Feb. 25.

THE WEST MOSTYN COAL AND IRON COMPANY.

SIR,—The letter signed "J. D. Shakespear," in last week's Journal, being a personal attack upon me and quite uncalled for, I beg you will insert this letter. The less J. D. Shakespear says and writes about the deferred promoter's shares and the past the better. The promoter, and those who got him into the position of director, should advise him, as how can a colonel in the army knew anything about a colliery. It is quite true that I had to return 26,000*l.* of deferred vendors' shares through my unfortunately being a trustee of the company. With regard to my being the secretary, I was advised to resign, and the company gave me a sum of money to do so. No doubt J. D. Shakespear was not a promoter, but will he state in the Journal how many vendor-promoter shares there were held in the room at the meeting, and how many *bona fide* subscribers paid for preferred shares exclusive of his own qualification and Mr. Ryland's shares.

I will wait two months for the chairman to carry out his elaborate scheme (which is giving him ample time), and if by then he has failed, which I fear will be the case, I propose that a circular be advertised in full in the *Mining Journal*, and one sent to each of the present 237 shareholders, with a proposition for privately providing the necessary capital to re-work the colliery and to at once liquidate the present company, and from a new one, giving the present shareholders fully paid-up shares according to their holding. Ill as I am, and confined to my house, I cannot help much in the work. All I wish is to save my friends if possible from the loss I have apparently led them into.—*March* 17. R. GEORGE SMITH.

THE WEST MOSTYN COAL AND IRON COMPANY.

SIR,—I read R. George Smith's business-like letter, and Mr. J. D. Shakespear's reply, which, in my opinion, and in that of those shareholders I have seen, is uncalled for, as Mr. Smith does not refer to the Colonel in his letter in any way. The point is—Can the Colonel raise the money by his scheme which the company requires? If not, then I say at once liquidate, and form a new company, as Mr. Smith proposes.—*City, March* 17. ONE LARGELY INTERESTED.

THE WEST MOSTYN COAL AND IRON COMPANY.

SIR,—I read with much interest the letter of Mr. R. George Smith, in the Journal of March 5, and I must say our Chairman's reply is very poor indeed. If he had admitted that his scheme was a failure or otherwise for raising the money to rework the colliery, and asked Mr. Smith to come forward with his friends, it would have been more to the point. It seems to me, Sir, that Mr. Smith's proposition is not only simple but practical. ORIGINAL SHAREHOLDER.
Ilfracombe, March 16.

WHEAL PEEVOR, AND WEST PEEVOR.

SIR,—Referring to Messrs. Watson's remarks in last week's *Mining Journal*, I beg to inform your readers that the West Wheal Peevor sett was not taken up by the officials of Wheal Peevor, but was leased to some gentlemen in London in 1874, who were in no way connected with Wheal Peevor. W. T. WHITE.
Wheal Peevor, March 15.

PARY'S CORPORATION.

SIR,—Permit me to draw the attention of shareholders to the remarks of Messrs. Watson Brothers in last week's Journal on the reported discovery of the means of extracting gold from copper pyrites. While unrelaxing in their efforts to discover the mighty deposits (?) of the baser metal of which they have been so long in search, the directors should be urged to devote some attention to the riches possibly hidden in the million tons of apparently refuse material lying under their feet, or before their eyes! Messrs. Watson are evidently shareholders in Parys and shrewd men of business; and it is to be hoped that, in their own interests, and in the interests of the general body of shareholders, they will insist on the alleged discovery of the French Mineralogist being fairly tested. SHAREHOLDER.

THE TAVISTOCK DISTRICT.

SIR,—One of the most satisfactory features of the recent revival in mining industry is the attention which is now being paid to our home ground. I do not disparage the far off birds, whose proverbally fair plumage has so many times attracted the attention of those who put capital in mines—not at all times, I fear, to the ultimate satisfaction of the investors; but it has been a source of something more than astonishment that this should be done to the neglect of some of the finest mineral properties in the world lying at our own door, but to a great extent unknown to any but a few mining experts. There are many districts in both Cornwall and Devon to which this remark applies, but perhaps to none more than the Tavistock district. Hitherto this district has been little more than scratched on the surface, for there are really no deep mines to be found within its limits. Those who have hitherto brought out mines in this region have not formed big enough conceptions of the work they have undertaken, and have hence not provided capital large enough to cope with the inevitable expense and difficulties attending the proper developement of mines. I imagine that Devon Great Consols and South Caradon are to some extent responsible for this state of things. Because the former produced almost millions worth of ore on an expenditure of 102*4l.*, and the latter was only a little less successful with the expenditure of only 640*l.*, it by no means follows that other mines can be made permanently successful by the outlay of only a small capital; and if mining companies would but have subscribed a capital of adequate amount to be called up if it is found to be required, and the managers take care that every 1*l.* expended was laid out with judgement and skill, it is to my mind certain that the Tavistack district would display mines which for extent and richness would compare favourably with any mining district in the kingdom, perhaps in the world.

The extension of the working power of that grand old mine now called Devon Friendship is a move in the right direction. The Crebor Mines are likewise doing yeomens' duty to mining, and so I hope will the re-working of the Sortridge lodes help to unfold the riches of the district. I am glad to see that the public are appreciating the Walkham United Mines, now springing into new life. These mines occupy a very extensive tract of maiden ground where very little depth has been attained, but where lodes of great value have been laid open, and which a century of mining operations will not have exhausted, but, like Wheal Friendship and Virtuous Lady, exhibit the riches of centuries of industrial labour.

I agree with your correspondent in last week's Journal that a most interesting series of events surround the working of Rix Hill, Anderton, Walkham United, Sortridge, Lady Bertha, and other famous mines to the west of the Tay river. Lady Bertha will, I hope, be developed with the energy and intelligent perseverance which she so richly deserves. Sortridge will, I trust, open out on similar lines. In Walkham United I have the utmost confidence, but not more than I have in Rix Hill and Anderton. In the adit of the last named a fine copper lode has just been discovered, which I understand is believed to be an entirely new discovery to the south, running east and west. This lode is nearly parallel to and only about a dozen fathoms distant from the very rich copper lode in Rix Hill, which has only been worked in the adit of that mine, and the two mines being in the same hands, admits of the two lodes being worked by a short cross-cut from the same adit. Both lodes are entire, and of a highly satisfactory character. These are entirely apart from and independent of the north and south lodes in East Crebor, which run eastward into Rix Hill and to the north of the two former lodes. In fact it is, locally, notorious that at the eastern end of East Crebor where it joins Rix Hill, the lodes in quality and size will before long create a sensation of no small import. Four rich strong copper lodes in the property held by one party, and little short of a mile in length, upon which very little comparatively has been done, is surely some evidence of the undeveloped riches of this district. But beyond these lodes the setts I have named contain to the south of the property two tin lodes, upon which shafts have been sunk, of a size and richness which have few, if any, equals in the county, to say nothing of the fine caunter lodes from which I have seen some extremely rich silver-lead taken.

I need not occupy your space by referring to the west of this district running from Wheal Frances, west by the Russells the Bedfords into and beyond the Devon Great Consols region. I will only add, if mine investors want a profitable outlet for their capital and will use their judgement, obtain sound advice and lay out their money judiciously, they do not want to go to India or America for a mining region of great riches. The Tavistock district is at their door, easily accessible by road and rail, with enormous water power at command, and in fact all the elements of success awaiting the means of development, and I hope the reproach of neglecting our home industry for foreingn speculations, of which we can know but little, will soon be wiped out. G. T.

WEST PROVIDENCE MINES.

SIR,—These mines are divided into the modest number of 6000 shares. The vendors of the 3000 shares have expended on the property the full amount they ask for 3000 shares—1*l.* per share. They retain the other half. The mines are in perfect working order, with excellent machinery for pumping and stamping tinstone; the latter engine is powerful enough to stamp tinstuff of the average quality to produce 30 tons of tin per month. Various lodes, from 2 to 14 ft. wide, pass through the mines, three of which are being operated upon. The whole proceeds of the sale of 2500 shares will go to develope the mines, which with the tin now being returned are expected to bring the mines into a profitable state. H. WADDINGTON.

EAST WHEAL BULLER

SIR,—It is now nearly a year ago that the 40 cross-cut south was started in this mine to intersect the Buller lode. Now, I should, in the interest of home mining, like to know what effort has been made to attain so desirable a consummation, for I fear we adventurers may find ourselves at the finish of the present century and the lode not then cut. Compare the progress here and the energetic development of most of our Indian mines. If Cornwall wants support from an investing public she will have to move with the— PRESENT PROGRESSIVE AGE.
Cairnscross, near Gloucester, March 16.

EAST WHEAL ROSE.

SIR,—Having acted for a long time for my late father as toller, or mineral agent—first for Sir Christopher, and after for Mr. John Hawkins, who received by far the greatest amount for dues during the last working, and being thoroughly acquainted with the workings of the mine from the first day of its cutting rich, the drowning of 27 men, and the suspension of the mine, and having carefully to dial the mine at all the different levels, in order to keep matters correct underground, I now beg to state that the real and true reason for abandoning the property has not yet appeared, and anyone who is a shareholder desirous of obtaining it may have it.
Goginan, Aberystwith, March 17. ABSALOM FRANCIS.

GUNNISLAKE (CLITTERS) MINE.

SIR,—In the affairs of this mine it seems there is nothing like blowing one's own trumpet. The Chairman of the late meeting of this company is reported to have said Clitters Mine was the only copper mine making profits. This is not a fact. Devon Consols Copper is making profits; Wheal Crebor is making and can make splendid profits for years to come, and is the cheapest mine worked in the western counties of England. The manager of Clitters is reported at the same meeting to have said Clitters was not worked with a view to market jobbing, like South Devon United or Devon Consols. How does he settle the following mysterious "get up" of the great discovery of grey ore in the south cross at Clitters about a year ago, no lode then being discovered? What was the object of that flowery report? People were sent out to tout and proclaim the great discovery, and the shares were run up to how much? It is a known fact that the lodes of Clitters are small, requiring an immense quantity of them to make a sampling; whereas Crebor lodes are of great width, producing 10, 15, and 20 tons per fathom. Did Clitters really and truly make any profits on the last four months' working; if so, how much, bearing in mind there are still claims for land, &c., yet to be met? What we require for Clitters is a good London office, the same as Devon Consols, Crebor, South Devon United, and other mines. Then, with a London directorate, secretary, and purser matters would mend; but so long as we have a ring of supplying merchants at the head of affairs, self receives the first big sop. A SHAREHOLDER.

GREAT POLGOOTH—ANECDOTES.

SIR,—In the times of late mining companies (40 or 50 years ago) economy in the expenditure of capital was not regarded as it is in the present day in any department. The depreciated prices of metals—especially of tin and copper—arising from foreign competition, has necessitated the most rigid economy in all our mines to save many of them from extinction or abandonment. I could state very many of the items on which enormous savings have been effected, but I will herein limit my remarks to one only—I mean that of alcoholic beverages. In some of the mines, which are now idle, the amounts charged for these things were enormous, even in mines where heavy losses had to be provided for at every account meeting. Great Polgooth was a dividend mine all the time Messrs. Taylor and Sons held it, which was for a term of 21 years. They have always been regarded as a very liberal and upright party, and properly so. They did not stint their agents in the use of that which cheers and inebriates. The agents had an unlimited supply of drinks till the cost was found to be too enormous to be endured, when a slight check was imposed, but after that the allowance was equal to that of any ordinary mine. The agents appear to have been a very social body of men, Capt. Paul being at the head, and, therefore, they very frequently invited their St. Austell friends to join them at the account-house dinner-table, because there the provision cost them nothing. Well, on one of such occasions, when they were well drunken, I mean drunk, they were engaged in some controversy, whether, political, religious, or scientific I cannot say, but as men generally quarrel on one or the other of the two first-named subjects, it is very probable that it was so on this occasion. Some men when drunk are better in temper than when sober, and will laugh and joke and bear a great deal of sarcasm unmoved; but in general drink excites the worst passions of our nature, and men in that state will do readily what they would be ashamed to do when sober. On this occasion rough words were followed by blows, there was a general fight with chairs, or parts of chairs, as the weapons in which blood was spilt, but no life sacrificed. The fight lasted till 11 chairs out of 12 were smashed to atoms. But no lasting anger was entertained, the next day there was a calm—all right again. The demon had left. After this Capt. Paul became a teetotaler.

There worked at Polgooth about that time a man called Jaco Wallis, who thought that he had a toad in his stomach, which he said he must have swallowed by drinking at a well when it was small. This thought—clearly erroneous—induced him to remain at home. After about a month had elapsed Capt. Paul sent the mine doctor to see him; he reported that he could discover no disease in him, and as to the toad he believed it to be imaginary only. However, the man asserted that the toad was frequently biting his stomach—particularly when he stayed long without food. He would swear on his wife, and say, "Give me my breakfast, the toad is biting me!" He said that the toad eat his food and made him hungry. His wages were kept on for two months, when the doctor paid him another visit, and reported as before. Hereupon a consultation took place between the agents as to the course to be taken, when it was determined to send a messenger to him with the following message:—"Capt Paul has sent me to inform you that you must come to the mine to work immediately; you have been home idle and lazy for more than two months, while you are well able to work. If you do not come to work this afternoon you will be dismissed from the mine, and your two sons." After some murmurs and expressions of hard dealing, &c., he walked to the mine, worked as usual, and nothing more, I understand, was heard about the toad.
Truro, March 15. R. SYMONS.

WHEAL JEWELL.

SIR,—The letter of your correspondent, Mr. Absalom Francis, which appeared in the Journal of Saturday last, must be very cheering to shareholders in the mine, and if the prospects are as encouraging as he therein points out can any of your readers explain why shares are now so low in price? I have not the least doubt, from what I have been informed, that the mine is a very good one, and, therefore, trust your correspondent's predictions may be realised, and that ere long, as in my opinion the shares cannot fail to have a good rise shortly.
March 16. OBSERVER.

ROOKHOPE MINES.

SIR,—Throughout a long experience I have always found that when persons descend to personalities and the imputation of evil motives their case is a very bad one. As your correspondents "A Northern Shareholder," and "A Shareholder in the Old and Present Company" know so much I think it is a pity they did not enter into a few more particulars, and give us the information I wanted as to the time, place of sale, the manner of choosing the syndicate, the name of that mysterious person the agent employed by them. Why were the names of the persons composing this syndicate, as well as that of their agent, withheld from me, a shareholder in the old company, the Rookhope? If I had been told that a respectable body of men had formed themselves into a company to buy the mine I might, perhaps, have taken shares in the new company, but when everything was withheld from me, even to the name of the agent who entered into an agreement with "Messrs. Samuel Whitfield Daukes and John Henry Augustus Smith" (agents for the new company, I felt that it would be the height of folly to risk any more money in such an undertaking. I certainly received a circular intimating that a sale had taken place, that the purchase money was 2300*l* (I think if your correspondent would refer to my letter he would find that he went out of his way to accuse me of concealing the fact), but I should have liked that circular to have gone a little further and given me a statement of accounts, such as the debts of the company, the cost of liquidation, and the balance, or otherwise, when the mine and plant were handed over to the new company. It seems curious that the purchase money at a public sale should just cover the debts and expenses to a penny, and without a statement of accounts we are left to this conclusion.

I do not consider it "doing much" for the old shareholders offering them shares at par, when only a short time before the most urgent appeals" to take the same sort of shares had met with no response. The old shareholders, too, knew what they were doing, but with the new company there was nothing but mystery, except, of course, to those who were in the secret. I am glad to find that the shareholders were offered shares on the conditions stated by your correspondent. I am quite ready to take his word for it, but my "Form of Application" does not state it.

I certainly did not want to buy the Rookhope Mine, or any other mine. I bought a few shares in Rookhope on the advice of a great authority in mines, and was surprised shortly after to find the company asking for more capital. Though not a shareholder I can wish the Northern Mine every success. BRISTO.

LEAD MINE ENTERPRISE IN LLANARMON.

SIR,—I read Capt. J. A. Ede's letter in last week's *Mining Journal* with considerable interest, and I am sure your readers interested in the prosperity of this district must feel under an obligation to him for his amplification of the statement made in the Journal, Feb. 26, respecting the great discovery at Nant Adda. In his letter he says that the note of Feb. 26 "has a tendency to exaggerate" the value of the discovery said to have been made at Nant Adda, and that "as it appears that some correspondents are under the impression that the said information emanated from me, I take the first opportunity to contradict it." Now, it appears to me that Capt. Ede thought that I pointed to him as being the "well known hand" who had written the paragraph of the above date, headed Pant-y-Mwyn; the main object of which seemed to be to draw attention to the great find at Nant Adda. Let me here tell Capt. Ede that he was never present to my mind when I wrote the words "well known hand" in my letter of March 5; and although the discovery does not appear to be so great as first named, it must be gratifying to know that it is as good as named by Capt. Ede, with whose remarks I perfectly coincide. This brings me to notice that this district is being brought still more into note by the formation of the West Minera Mining Company, with which I see Capt. Ede is identified; the chief lodes in which are known as the Pant-y-Gwlanod and Bryn-y-Mwyn. In Capt. Ede's report on the Lady Ann Mines he says, "There are at least four well known east and west lodes traversing the sett (Lady Ann) that have been worked in the eastern bearing measures with the following results:—The Nant 50 fathoms east returns one million sterling worth of lead ore. Ede's vein, a new lode, profitably worked 50 fathoms east at Bryn-y-Mwyn Mine, worth near the surface from 1 to 2 tons of ore to the fathom. Pantygwlanod, a very rich lode, from which a course of ore was worked from the surface to a considerable depth, during which time returns were made of 60 to 70 tons per month: and Francis vein, the discovery of which must be credited to your indefatigable exertions in order to secure the best point for your permanent workings. All these lodes are possessed with sufficient scope and capacity, and in every instance have been prolifically rich in the different bearing measures of the district." I should mention that there are two or three other lodes in the Lady Ann sett from which ore has been extracted, and the probabilities are that you will meet with more. I am sure it will be a gratifying sight to most people who know this neighbourhood to see the Lady Ann actively engaged on one side of the valley of the Nant, and the new company also briskly working on the other side, and both as it were working in a friendly rivalry, and extracting from the bowels of the earth the riches known to exist in the several lodes named above, which at a comparatively short depth are entire and unworked, and I trust that the efforts of Capt. Ede and all concerned will be rewarded with an influx of capital to work not only the new west Minera, but also the Nant Adda, and I may say so far, that the proprietors of the Lady Ann Mines will rejoice with him and his friends at their successes. The writer has great hopes that before long they will be at a premium. There are many mines with prospects not so bright by a great deal which are paid for by investors at higher prices.—*Tonge, March* 15. RESURGO.

KILLIFRETH MINE.

SIR,—Some short time after the meeting of shareholders, held on Oct. 22, when the old part was recommended to be abandoned, and the workings confined to the western ground, I wrote you a letter, which you were kind enough to insert in your valuable paper, drawing attention of the executive to the desirability of confining their operations to one or two points that were most worthy of being prosecuted, and push them on vigorously. I urged the necessity for this course in consideration of the long and persistent drag this mine has hitherto been on the pockets of its unfortunate shareholders. I was very pleased to find the mine had recently been inspected by a a competent and experienced mine agent, Captain Davy, of North Penstruthal, and equally pleased to find he recommends stopping those useless drivages, &c., about the adit and 10 fm. levels, which appear to me have, and are, only been prosecuted for the purpose of employing men and spending money, but which are never likely to be of any advantage to the adventurers. I am quite certain that the good sense of Capt. Davies' recommendation to confine our operations to one point must commend itself to the approval of every shareholder; the expenditure would probably thus be reduced to a third of what it now is, and the chances of discovering a good mine would be quite as great as at present. I would further suggest, with a view to economy, that the mine then, and even now, be carried on easily and efficiently with one agent instead of two. I would fur-

ther suggest, as I did on a previous occasion, that regular reports of the mine (say) weekly, or at least fortnightly, be sent to your valuable paper, so that persons at a distance interested in the mine may have an opportunity of watching the progress of the mine. As a large shareholder, and one who has felt this continuous drag of calls for such a length of time, I do earnestly hope the recommendation of Capt. Davy be at once acted upon, and thus give us a chance of opening up a valuable mine at an easy outlay. Surely this is not too much to ask after our long perseverance, and the heavy drain we have had to endure. If this be not done I for one, and I know many others will support me, should recommend at the next meeting either to abandon the mine altogether or make an entire change in the management. ——— A SHAREHOLDER.

THE TAVISTOCK DISTRICT—WALKHAM AND SORTRIDGE.

SIR,—The spirited and enterprising manner in which operations are determined upon here cannot fail in the course of a very short time to realise the assurance of the old adage in its application to mining—"That there are as big fish in the sea as ever came out." My eye now rests on many mines having the promise of almost immediate success, and of this I feel sure, that if any five or given number of the mines of the district are selected for investment at once at present prices, and the different investments be considered as one, a great success is certain during the year. That there are mines whose intrinsic value will be more than doubled within the next few months is not doubted by many who ought to know, and this not on account of share jobbing or any such influence, but to the true merits of the properties. I recently called attention to the similarity of the features in the mines on the Tavy and Walkham rivers to that of West Cornwall, where such abundance of both tin and copper have been produced—in many instances lodes of tin becoming rich for coppor. Trials for tin only have so far been made in Walkham United, whilst it is evident that the rich copper lode of Sortridge traverses the latter mines. This fact has been plainly emonstrated.

The recent discovery by the proprietor of Sortridge of the great copper lode, west of the cross-course, makes it very desirable to follow it up in Walkham, as the discovery referred to abuts immediately on the eastern portion of Walkham, and the lodes run directly through the sett. I venture to predict an eventful future for both the Sortridge and Walkham Mines. The vast resources of the great Sortridge copper lode, which has now been found west of the cross-course, and running through the Walkham property, are called to mind, and remembrance goes back to the days when the lode was the talk of the country, and the shares in the mines of the district were dealt in at such fabulous prices. The discovery of this copper lode is due to local enterprise, directed by the judgment of our best local authorities, and is looked upon as one of incalculable importance.

March 16. A. B.

REPORT FROM CORNWALL.

March 17.—The best news for the nonce is the reduction in the price of dynamite of 25 per cent., with a kind of half understanding that another 12½ is to follow. Of course, this is to prevent, if possible, the chance of competition, but the Dynamite Company may depend upon being run hard, if not by dynamite itself in other hands by nitroglycerine preparations. It has been suggested that if leave could be obtained of the proprietor one of the uninhabited Scilly Isles would afford an excellent site for a dynamite factory within the limits of the present law. As to a rise in metals, it seems as if we must still be content to wait. We do not require very much improvement, however, in general trade to effect a very decided change for the better, and there is no reason to fear a turn for the worse.

We wonder whether there will ever be a time when the discussion of the much-vexed dues question will be deemed seasonable, and the chronic grumbling develope into anything like definite action upon common-sense principles. When mining is depressed most of the lords are wise enough and just enough to make the best of an unfair system, and reduce the dues leviable to a moderate amount, or even to give them up altogether during pleasure, and then, of course, we are all so thankful for the liberality displayed that grumbling is felt to be ungracious. On the other hand, when mining revives, there is always a rush after setts, quite irrespective of conditions, and the lords can if they please make pretty well their own terms. There are plenty of applicants for all the more promising setts, and if one will not give the dues demanded why others will. Dues reform, in fact, thus seems never to be in season.

We are prompted to these remarks by the heavy amount now being demanded and paid in the shape of dues at Dolcoath. Few men have done more than Mr. Basset to promote the mining interest; none have shown greater liberality; but in exacting a fifteenth dues —though it is, of course, his legal right—he is now laying a heavier burden upon that mine than that which we believe any other concern in the county has to bear. We did hope at one time that there was a prospect of his becoming the greatest benefactor the mines of Cornwall ever had—next to the authors of the steam-engine—by introducing the only fair system of dues—percentage on profits—and on profits only with fair surface rent and full compensation for land damaged. In this, however, we seem to have been mistaken, and we are very sorry for it, for under present conditions there seems no prospect of a change for the better in the dues system, unless it comes from the landlord's side. We all know that if the present adventurers in Dolcoath declined to pay the fifteenth there are others who would only be too ready to get the chance to pay a twelfth. Herein indeed lies the main, nay the only practical, difficulty.

The great point that seems to be overlooked in a comparison of the old dues with those now paid is the fact that the quantity of capital now required to work a mine is much larger than it was fifty years ago, and very much larger than it was a century since, and that consequently the risk of the adventurers is increased in the same proportion, while that of the mineral lord stands precisely where it was—indeed is even less, since the prospect of heavy loss leads the adventurers at times to persevere really against hope. Moreover, this dead weight of capital involved in the necessary increase of plant and extension of operations demands a larger return in the shape of interest, quite apart from that upon the labour employed, which was almost the only source of expenditure at the time when the dues system originated. To place the lord and adventurers in the same relative position which they formerly occupied the rate of dues, therefore, requires to be materially reduced. The eight or tenth which used to be taken in the days of streaming, when the greater cost, risk, and difficulty of modern mining are taken into account, would be now fully represented by a thirtieth or fortieth, instead of the Dolcoath fifteenth. And if we take the Dolcoath dues as chargeable to profits they actually amount to something like 20 per cent., or a fifth of the whole net revenue. Surely such figures as these can rarely be looked at in their naked simplicity.

A very laudable effort is now being made to extend the advantages of telegraphic communication to what is at present probably the most important business district in the kingdom as yet without them—the large and populous district around Bugle and Roche, the chief centre of the china-clay trade of Cornwall, with some scores, if not hundreds, of clayworks in operation, and a steadily increasing number of tin mines. The matter has been zealously taken up by Messrs. Robartes and Borlase, the members for the eastern division of the county, who are pressing it upon Mr. Fawcett, the Postmaster-General. A memorial has been got up, signed by the most influential residents, merchants, and landowners, asking for a wire to be taken from Par along the Cornwall Minerals line to Bugle station, and thence to the post-office at Carnsmerry. At present there are about 85,000 tons of china-clay raised annually within a radius of a mile and a quarter of the Carnsmerry village, the preparation of which requires an import of 9000 tons of coal in the same period. At present this active and populous district is accessible only for communication by post or special messenger. The magnitude of the interests involved clearly call for the grant of the facilities sought for; and what makes the application more important now is that so many of the clayworks are managed from a distance, some having their head-quarters as far away as Wolverhampton. The locality is a peculiar one, and no ordinary mode of reckoning population would adequately show its populous character. For miles the uplands are dotted with cottages and groups of houses, which form an aggregate far more considerable than the recognised hamlets and villages, and year by year both population and business extend.

The suggestion has been recently once more thrown out that lamps may be substituted for candles in Cornish and Devon mines, following the example set not only for special reasons in our own coal mines, but in the metal mines generally of the Continent—in fact, going back to what was the ancient practice here. The experiment is certainly worth the trial, seeing that mineral oils have put the cost and facility of lighting by lamps underground upon a different footing to that which not long since existed. Economy is not the only point to be considered, but adaptability and amount of light. Whatever their fault, candles do give a fairly good light, and by the aid of their clay rochets they can be placed in precisely the position best suited to the actual operation in hand, in this respect having a decided superiority over the ordinary forms of mine lamps, whether colliery or metal.

The West of England Compressed Peat Company have had a very unpleasant meeting, which has resulted in the change of directors, and are about to take a new departure. A committee of investigation reported that of a capital of 50,000*l.* about 30,000*l.* had been lost, even valuing the setts of peat ground, &c., at what some of the shareholders consider an outside value. It remains to be seen what will be done under the new auspices. There are immense breadths of valuable peat deposits on Dartmoor, and the leases granted to the company give the right to work what is practically an almost inexhaustible supply. Hitherto all the efforts at their utilisation have resulted more or less in failure. A few years since it might have been a good idea to use some of the peat charcoal for the smelting of local iron ores, but the Bessemer and Siemens processes have practically put an end to it.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

March 17.—On 'Change in Birmingham, yesterday, pigs made from native ore were fairly strong, at from 3*l.* to 3*l.* 5s. for all-mine qualities, and from 2*l.* 17s. 6d. to 2*l.* 2s. 6d. for part-mine sorts, while cinder qualities ranged from 2*l.* to 1*l.* 17s. 6d., and even 1*l.* 15s. in exceptional cases. Thornecliffe pigs were inflexible at 58s. 6d., which is a drop of 1s. 6d. upon the week. Derbyshire pigs were plentiful, at 45s. Stocks at the furnaces show no signs of diminution, and the make is being reduced by the damping down or blowing-out of a few furnaces. In the finished iron trade sheets continue to be the most active branch. Some firms demanded to-day 7*l.* 5s. for singles, 8*l.* 10s. for doubles, and 10*l.* for lattens, while others again demanded 7*l.* 10s. for singles, but would have booked doubles at 8*l.* 5s., and lattens at 9*l.* 15s. The coal trade is not in so satisfactory a state as two or three weeks ago. Demand and prices alike are less strong. Already 6d. of the 1s. advance which of late was put upon furnaces and forge coal has been lost.

The directors of Messrs. John Bagnall and Sons (Limited), ironmasters, West Bromwich, have issued their report for the year 1880. They state that the latter half of the year's trading has swept away the balance of profit resulting from the trading of the first five months, and left behind a serious loss. This is mainly owing to the rapid and unprecedented fall in the value of stocks of materials and of finished iron that occurred on the sudden collapse of the American demand. The contract which the company had on their books in the early part of the year, including those for the purchase of material for their anticipated requirements, and which were at the time of considerable value, have, owing to the great fall in prices and the impossibility of obtaining orders at remunerative rates, proved the source of heavy loss. The balance-sheet shows that the loss upon the year's trading has been 9441*l.*, to which has to be added a deficiency of 3085*l.* interest on debentures and loan, making a total loss of 12,527*l.*

In North Staffordshire the coal trade keeps up fairly well the improved tone which characterised it. Sales, however, are not quite so buoyant, for colliery owners do not meet with a ready response to the advanced prices they are obliged to ask in consequence of the higher wages paid to the men. Sales of ironstone are up to the average. In the pig-iron business there is hardly any noticeable change, but what there is is, unfortunately, rather on the side of weakness, both as to quotations and sales. The rates for pigs of the better class are from 57s. 6d. to 60s., while the commoner quality is worth about 37s. 6d. to 40s. In finished iron business cannot be considered brisk, and prices, as rule, are a little weaker. The plate trade is tolerably good, as also is the hoop trade. Bars range from about 7*l.* for best crown brands down to 6*l.*, and in some cases 5*l.* 17s. 6d.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

March 17.—The change in the weather has been most favourable to mining operations in those districts where the rain and snow have been able to penetrate into the shafts, as is the case in some of the lead mines, so primitively worked as many of them are at the present time. Whatever may have been the case in other districts, Derbyshire appears to have made scarcely any progress in the shape of improvement in the opening out of mines, or in the machinery and appliances necessary for their economical working; but in the few instances where the best pumping and other essentials have been introduced the results have been most satisfactory. Capital, indeed, in mining of every description is a necessity where success is desired, and by industry obtainable. Lead mining in Derbyshire, however, has been carried on in a very rude manner, and the result has been that the profits made in some instances are not more than mere ordinary miners' wages; whilst the mine owners are but miners themselves. It is different, however, in the coal mining districts, where a vast amount of capital has been introduced in the opening out and working of collieries, and the results in tolerably good seasons have been all that could be desired. Of late the collieries have been doing well, owing to the disputes in other districts, and a heavy tonnage of coal has been forwarded to the south and west, whilst a good deal has been sent into the West Riding, where many pits have been closed owing to a strike. However, the men having gone to work a change has taken place, so that no more coal is likely to be required in that direction. The business doing with London from the Derbyshire pits has been good, and during last month no less than 27,000 tons were forwarded within the City limits from Clay Cross, 15,000 tons from Eckington, and a large tonnage from Grassmoor, Pilsley, Langley Mill, Blackwell, and Boythorpe. Steam coal is looking better, having been dull for a long time, and in a short time it is expected that there will be considerable activity with respect to it, as the shipping season is now getting nearer. For some time past engine coal has gone off well, more particularly for Lancashire; but the strike in that county having been brought to a close, the local pits will now be able to furnish all that will be required, so that the foreign supplies may be said to have already been dispensed with. The coke trade has been good, large quantities having been required for the smelters in Sheffield and the adjoining district. The ironworks in Derbyshire have been working steadily, the out-put of pig being kept up to the average. The rolling mills, however, have been by no means busy; but the foundries have been working steadily. Steel rails have been in brisk request, and the works at Dronfield have turned out the usual quantities.

In Sheffield there has been a decline in some branches of the trade, but this is only looked upon as temporary, for scarcely any orders of late have been received from Russia, whilst for some goods less has been done with America. Australia continues to be a good customer for rails in particular, and it is evident that our colonies are extending their railway facilities on a large scale, and which must result in opening out their internal resources by bringing important districts into direct communication with the seaboard. The rolling-mills have been running well in ship and boiler plates, telegraphic wire, sheets, and other material, whilst the steel rail mills have been most active. Every description of railway material continues in brisk request, and large orders are in hand that will take some time in working off. Some of the cutlery houses are not so well off as they were, still the men are, as a rule, kept fairly going, more particularly in the finer descriptions of table and pocket knives. In the inferior qualities of pocket knives Germany runs our makers hard, for they produce an article that looks well, and offer a fine-looking four-blade knife as low as 5s. per dozen. More has recently been done in cast-steel for several purposes, and the prospects of this old branch of trade are now looking more healthy.

In South Yorkshire the great event has been the entire collapse of the miners' strike, and whilst last week something like 12,000 miners were walking about on strike, at the present time there are not more than from 2000 to 3000 at the most, and the number is daily getting less. The men struck for a 10 per cent. advance, and that being refused they offered to resume work at a 5 per cent. increase, and ultimately went to work at the old rates, after losing many thousands of pounds in wages. An effort, however, in now being made by the leaders to have at least two collieries on strike, as it is supposed the men who have resumed work will be able and willing to support those who still remain out. In one part of the South Yorkshire district the men have continued at work, and have accepted the sliding scale, which is really the fairest system that can be adopted in the interests of the workmen. As to trade, so many pits having been standing those at work of course have done well, and up to a few days ago large quantities of coal were put into Lancashire wagons, but this, of course, is now over, seeing that the strike has closed. Business with London has been tolerably good, more especially for the thick coal collieries, including Thrybergh Hall, Carlton Hall, Darfield Main, Mitchell's Main, and Swarthe and Edmunds. There is a little more activity as regards steam coal, and more may now expected to be done with the Humber ports for shipment. In other descriptions of coal there has not been much change, but a good business continues to be done in coke for Sheffield and other districts.

TRADE OF THE TYNE AND WEAR.

March 16.—The weather having moderated very considerably the coal trade has improved in most branches, and there is now a better prospect of business. The shipments of coal at Tyne Dock last week were about 90,000 tons, and the shipments at other points on the Tyne, as well as on the Wear, showed also a considerable improvement on previous weeks. The prospects of the steam coal trade are also better, as several large sailing ships are expected. The intelligence from the Sound ports is much better, and there is now a prospect of the opening of these ports, and also of the Baltic, at an earlier date than was expected. The improvement of the harbour at Blyth, and the railway approaches to it, will not, it is expected, be lost sight of. There is no doubt that large vessels of all kinds will continue to load in the Tyne, but a smaller class of vessel is required for certain trades, and the improvement of this harbour would there is no doubt increase the export of steam coal, and materially benefit the collieries in the vicinity. The demand for steam coal at present is certainly not so strong as could be wished; the contracts which are being made do not as far as they have gone amount to a great deal of business for the year, but large shipments of coal and coke must occur when the Eastern navigation is opened. The gas and coking coal trades continue fair, but in South Durham there is a more quiet tone; some more continental contracts have been signed at Newcastle this week for gas coal. The demand for house coal is falling off, owing to the advent of comparatively fine weather. The demand for small coal and for manufacturing coal for local consumption continues good, and as contracts for gas and coking coal have been secured by most of the best collieries in Durham as a rule there is no lack of employment in this county.

The explosion at the Seaham Colliery has proved the most disastrous which has occurred in the district for a long period. At the time when it occurred about 2000 tons of coal was raised per day. The loss of life was very serious, and a number of bodies yet remain in the Maudlin seam, the entrances to this seam being closed up. Very little coal has been worked since the explosion occurred upwards of six months ago. At least 200,000 tons of coal less has been worked than usual, and the expense incurred in reopening the workings has been very heavy. There is now, however, a prospect of work being resumed by the whole of the men, a compromise having been arrived at on Monday, brought about mainly by the action of the Federation Board; this board is composed of delegates from the miners and other unions of men employed at the Durham collieries. The men in this case have acted in a very foolish and obstinate manner, as the Union agents agreed in the opinion expressed by the engineers that the works were in a safe state, and they advised the men to work. At the same time the miners executive, while advising the men to work, continued to allow 10s. per week to each man out, which appears to be a very inconsistent course to pursue. The whole of the men will now return to work, but the men who are objected to by the masters agree to leave after the expiration of one month. The cases of intimidation were disposed of also on Monday before the magistrates at Seaham. All the men pleaded guilty to the charges brought against them; the two worst offenders were fined 10*l.* each, and the costs of the Court, and the other offenders were bound over to keep the peace for six months.

A most dreadful boiler explosion occurred at the Seaton Burn Colliery, which is situated in the main north road six miles from Newcastle, on Monday. Two men were killed and several others injured, and the damage done to the works is very serious. The engine-house is entirely destroyed, a portion of the boiler and the large steam pipes were blown over the top of a street into a field on the east side of the turnpike, and Dr. Walker's house was much damaged by the falling of a steam-pipe. One of the pit ropes were cut in two, and the cage fell to the bottom of the shaft. Some time must elapse before the serious damage to the works can be repaired, and no doubt the cause of the very violent explosion will be thoroughly investigated.

The imports of iron ore from Spain continue large into these rivers, and also into the Tees; 4000 tons of this ore was brought into the Tyne last week, and a large quantity was also delivered into the Tees. Up to the present time there is no falling off in the demand for the rich foreign ores in consequence of the success of the process for making steel from Cleveland iron being introduced. The shipments of rails from Middlesborough have been large this week, cargoes having been sent to the West Indies, America, and other places. A large number of orders are in hand for home and foreign railways, and a continuance of heavy shipments are expected.

A frightful accident occurred at the Eston Steel Works on Friday last. Steel making is carried on there on a large scale. Upwards of a thousand men are employed day and night in steel making and its manufacture into rails, &c. The quantity of rails now turned out amount to 2000 tons per week. This is the first serious accident of the kind. The converter, which contained about 8 tons of metal, was being lowered, when, owing, it is supposed to the bursting of a pipe, the vessel was overturned, and its contents fell upon a number of men who were in a pit below, and also among the men on the platform. Part of the molten metal fell upon some slag, and caused a series of explosions. Fifteen men were injured, and ten of them sustained injuries of a frightful character. Two of the men died shortly after the accident.

At Middlesborough on Tuesday the iron market was very quiet, and there were few transactions in pig metal. No. 3 is 38s., and No. 4 forge 37s. 3d. for prompt delivery. There appears to be a lack of demand for the spring trade, and an excess of production. Warrants are 39s. 3d. for No. 3. Messrs. Connall's stocks are still increasing, and are now 155,366 tons. Exports are only moderate at present. Scotland is still the leading customer for Cleveland iron. The Foreign trade for the last two weeks has mostly been with France and Belgium. Very little iron has been sent to Germany. There are hopes that the supply trade will now improve every week: the heavy weather has much retarded exports. The Mayor of Middlesborough has made an appeal on behalf of the wives and families of the men injured and killed by the accident at the Eston Steelworks last week. A strict inquiry will be made into the cause of the accident. The meeting of creditors and shareholders of the Darlington Iron Company passed off well, and there appears to be an impression with the directors that there will be a balance left for the shareholders when all the liabilities are paid, and on this the

hopes of reorganising the company are based. Steel continues in good demand; manufactured iron is quiet, with a downward tendency in prices. Bars are 5*l.* 7s. 6d. to 5*l.* 10s.; angles, 5*l.* 10s.; shipplates, 6*l.* 5s. to 6*l.* 10s.; puddled bars, 3*l.* 10s. net.

The Iron Shipbuilding Trade continues brisk on these rivers, and most of the yards are well supplied with orders. At Jarrow there is work in hand for some months to come, and further heavy orders from abroad are expected soon. A very fine steamer, built by the Wallsend Company, had her trial trip a few days ago, the Maud Hartmann. She has a carrying capacity of 3400 tons, and is in every way fitted out as a first-class ocean going steamer. The engines have been supplied by Thomas Clark and Co., of Elswick. The vessel went to sea on Saturday last with a cargo of 2382 tons of coals for Bombay. Her speed was 9 knots per hour, and indicated horse power over 700. This company has an order for a similar ship on hand, besides several others.

Engineers are fairly busy. Most marine engineers are extremely so, and there has been some improvement lately in the demand for land engines also.

A large number of vessels, many of them of great size, have arrived on these rivers during the past few days, and the general trade of the district is expected to improve as the weather is favourable for the movements of shipping. The trade between these ports and St. Petersburg and the Baltic is very backward this season owing to the severe winter. The intelligence this week from Copenhagen is not very favourable for an early clearance of the Sound, and for the resumption of navigation. The Danish Government are about to employ some of their war vessels to break up the ice as far as possible to make a channel. The only large contract which has been completed yet for the Baltic is for gas coal. The steam coal and coke contracts have not been signed yet, but negociations are leading up to that way. The intelligence of the assassination of the Emperor of Russia has had a very disturbing effect upon trade here this week. It is feared that under the circumstances strong measures will be adopted for a considerable period, which will affect the freedom of intercourse between Russia and other countries in the way of the free movement of vessels in Russian ports, and generally interferes with the trade.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

March 17.—Her Majesty's Inspector under the Metalliferous Mines Act has recently obtained two convictions for breaches of the Act, one of which was inflicted in connection with the Talysarn Slate Quarry, which is one of the largest in the Nanttle Valley. The particular breach which occurred here was one in which the somewhat stringent rules relating to the storage of gunpowder was broken, and a fine of 20*l.* and costs was enforced. The carelessness of miners, quarrymen, and colliers in the matter of explosives has become proverbial, and heavy penalties are necessary in order to convince them of their misdoings, and of the law upon the subject. The writer himself was at one time somewhat alarmed a few years ago by coming suddenly upon a party of workmen underground who were employing the neck of an 8-lb. powder bottle as a candlestick. The bottle at the time was half full of powder, and the men said in excuse that they would take out the candle before it burnt down.

The other conviction obtained was at the Penrhyndendraeth Petty Sessions against the New Rossyed Slate Mining Company, who were charged under the Mines Act with omitting to securely fence a number of bridges in their possession. It appears that a man had fallen from a bridge in a chamber of the quarry to a depth of 40 ft., but that although he was seriously injured he recovered. This was the first case of the kind which had occurred in the district, and as the company had since erected proper fences to the satisfaction of the Inspector a fine of 20s. was inflicted on the first information, and 5s. on each of the others.

A stimulus to the trade and labour of the district will be given by the commencement of the Vyrnwy Waterworks by the Liverpool Corporation. The local papers contain advertisemonts to the effect that the Corporation of Liverpool are prepared to receive tenders for the steam cranes, trucks, steel, lead, rope, chain, timber, tools, &c., which will be required in the construction of their works. The tenders must be sent in by the 23rd inst. It seems probable, therefore, that the works all along the line of the route will soon be commenced; and, as has been already stated, the delivery of the mains, which are 2 ft. 6 in. in diameter, has already commenced.

We notice that the Bill promoted in the House of Commons by the Potteries, Shrewsbury, and North Wales Railway authorising them to sell their line was passed on Friday, the 11th. This line, which is only 28 miles long, cost in construction the sum of 47,000*l.* per mile, and that instead of returning 90*l.* a mile, which it ought to have done to pay a dividend, it only earned about 5*l.* per mile. The line passes mostly through an agricultural county, the only works connected with it being the Nant-Mawr Limestone Quarries and some stone quarries at Criggion. The mines and quarries of this district are working steadily, but there is a general lack of special news with regard to them. I hope next week to commence to give some of the information asked for by "Llanarmon," and trust that it will be useful to many readers of the Journal.

MINING PROGRESS IN COLORADO—THE LA PLATA COMPANY.—During the year a wonderful change has been made at the company's smelting works in the shape of continual additions and improvements. The La Plata has, says the Leadville Herald, been one of the most successful smelting establishments about Leadville. Starting with only one furnace, in 1878, the second was soon added. In 1879, the third was built, and these three have been almost constantly kept running since. In September last, a fourth furnace, a large one of over 40 tons daily capacity, was added, and the other three furnaces were completely repaired. A fine large engine of 120 horsepower was added, and for five months the four have been kept constantly running. Now the company finds the works still too small, and a fine furnace of 50 tons daily capacity is building, in fact is about completed, and will be put in blast by the first of next month. No delay will occur in attaching the new furnace, and the works will soon have running five furnaces, with a capacity for treating 160 tons each day. There are two fine engines in the engine-room; the one now running is of 120-horse power. Alongside this is one of 80-horse power that is connected with the boilers, and by simply throwing in gear can at once furnish the power to run the machinery and relieve the present engine. This assures constant running, provided any break or accident occurs. The mines of the La Plata Company consist of a group of three claims on California Gulch, near the Rock Mine of the Iron Silver Company. The mines have been developed by a fine tunnel, with levels, cross-cuts, and winzes, besides a main shaft, called the Rustin shaft. The tunnel extends above the level of the ore body, which pitches to the south, and the ore is raised by the Rustin shaft to the level of the tunnel, whence it is conveyed out in cars through the tunnel. There is an engine placed underground in an excavation made beside ths shaft in a main level, running west from the tunnel. The output of ore from the mine now averages 30 tons per day. The ore is very high grade in lead and improving in silver, returning from 18 to 35 ozs. of silver to the ton. The lead is about 35 to 50 per cent., so the ore is valuable as a flux, and enables the company to handle other ores of a less percentage in lead.

ATLANTIC COPPER.—The necessary steam and other machinery has been purchased, and will be erected forthwith, to enable the company to follow the ore in depth, where the richest courses of copper have been discovered, it is believed that this valva'ble property will upon a further vigorous development rank as second to Bearhaven, it being in the same district, and the mineral ground analogous to these celebrated mines, which have yielded copper ore to the value of 165,000*l.* It is stated on the most indisputable authority that the last company who worked the Atlantic Mines made a sufficient profit within 18 months to pay a dividend of 30 per cent. on a nominal capital of 20,030*l.* The actual capital expended being only 5700*l.*, but their finances becoming crippled they were unable to erect the necessary machinery for the purpose of sinking and driving to follow up the success which made the present company. A most interesting feature in connection with this property is that it contains, independent of its rich copper veins, a strong masterly auriferous lode, from which samples of quartz, have been raised and assayed, the average yield being 5 ozs. 3 dwts. 8½ grs. of gold to the ton of quartz. Sir Richard Griffiths, in compiling information for use of the general valuation of Ireland with reference to mining, mentions in a number of the Dublin Quarterly Journal of Science 40 places and mines in the county of Cork, and particularly defines this mine and lodes as the only one of that number of an auriferous or gold-bearing character. It is expected that the company will pay the dividend of 8 per cent. on the preference shares before June.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine sharedealer, Redruth (March 17), writes:—During the week prices of Carn Brea, Pedn-an-drea, West Basset, Wheal Agar, and Blue Hill shares have advanced in our market, the first mine closing at nearly a 10*l.* rise on the week. Others remain without much alteration. To-day the market is steady, and the following are the closing prices:—Blue Hills, 3½ to 4; Carn Brea, 128 to 130; Cook's Kitchen, 11½ to 12; Dolcoath, 56 to 56⅛; East Pool, 34½ to 34¾; Killifreth, ⅛ to ¼; Mellanear, 5 to 5¼; New Cook's Kitchen, 6 to 6½; North Busy, ¾ to 1¼; Penhalls, 1⅝ to 1⅞; Phœnix, 2 to 2½; Pedn-an-drea, 3⅝ to 3¾; South Caradon, 50 to 55; South Condurrow, 9½ to 10; South Crofty, 10 to 10½; South Frances, 8¾ to 9; Tincroft, 18¾ to 19¼; West Basset, 16 to 16½; West Frances, 10½ to 11; West Kitty, 3 to 3¼; West Peevor, 15 to 15¼; West Poldice, 3¼ to 4; West Seton, 19 to 21; Wheal Agar, 8¼ to 8¼; Wheal Basset, 4 to 4½; Wheal Comford, 4 to 4⅛; Wheal Grenville, 9 to 9⅛; Wheal Peevor, 20 to 21; Wheal Prussia, 1½ to 1¾; Wheal Boys, 2¼ to 2½; Wheal Uny, 3 to 3¼.

— Mr. J. H. REYNOLDS, stock and share broker, Redruth (March 17), writes:—A fair business has been doing in all the leading shares during the week. Carn Brea shares have again advanced, closing at their best. Pedn-an-drea shares are also in request at higher prices. Following are closing quotations:—Blue Hills, 3½ to 3¼; Carn Brea, 129 to 130; Cook's Kitchen, 11¾ to 12; Dolcoath, 56 to 56¼; East Pool, 34½ to 34¾; Gunnislake (Clitters), 4¾ to 5; Levant, 6 to 8; Marke Valley, 1¼ to 1½; Mellanear, 5 to 5½; New Cook's Kitchen, 5¾ to 6; North Busy, 15s. to 20s.; North Herodsfoot, 10s. to 15s.; North Penstruthal, 1¼ to 1⅜; Pedn-an-drea, 3½ to 3¾; Phœnix, 2⅜ to 2½; Penhalls, 1¾ to 2; South Caradon, 50 to 53; South Condurrow, 9¾ to 9¾; South Crofty, 9¾ to 10; South Frances, 8¾ to 9; Tincroft, 13½ to 19; Trugo, 1¾ to 1½; West Basset, 15¾ to 16¾; West Frances, 10 to 11; West Peevor, 14¾ to 15¼; West Poldice, 3¾ to 4; West Seton, 18 to 20; West Tolgus, 30 to 35; Wheal Agar, 8¼ to 8⅜; Wheal Basset, 4¼ to 4½; Wheal Boys, 2¼ to 2½; Wheal Comford, 3¼ to 3¾; Wheal Grenville, 9¼ to 9¾; Wheal Jane, 12s. 6d. to 15s.; Wheal Jewell, 15s. to 20s.; Wheal Kitty, 2 to 2¼; Wheal Peevor, 19½ to 20½; Wheal Prussia, 1¾ to 2; Wheal Uny, 3¼ to 3½. Cornish Bank, 21*l.*

— Mr. JOHN CARTER, mine sharedealer, Camborne (March 17), writes:—Transactions in the share market have again been confined to a comparatively small number of mines. Carn Brea shares have advanced, also West Basset, Agar, Blue Hills, and Pedn-an-drea shares. West Seton shares have also been in better demand. For other mines quotations are almost nominal, and in the case of progressive shares are almost unsaleable at present. The state of the accounts at North Busy has created no little surprise in our market, and the system adopted is strongly condemned. Closing quotations herewith:—Blue Hills, 3½ to 3⅝; Carn Brea, 128 to 130; Cook's Kitchen, 11½ to 12; Dolcoath, 56 to 56⅛; East Botallack, 1¼ to 1½; East Caradon, 1⅜ to 1⅝; East Lovell, 4½ to 4¾; East Pool, 34½ to 34¾; Mellanear, 5 to 5¼; New Cook's Kitchen, 6 to 6¼; Penhalls, 1⅞ to 2; Pedn-an-drea, 3⅝ to 3¾; South Caradon, 50 to 52½; South Condurrow, 9¾ to 9⅝; South Crofty, 9½ to 10; South Frances, 8⅞ to 9; Santa Gertrudis, 170 to 175; Tincroft, 18½ to 19; West Basset, 16 to 16½; West Frances, 10½ to 11; West Peevor, 14½ to 15; West Poldice, 3¾ to 4; West Seton, 19 to 21; Wheal Agar, 8 to 8½; Wheal Basset, 4¼ to 4½; Wheal Grenville, 8¾ to 9; Wheal Jane, 10s. to 15s.; Wheal Peevor, 19½ to 20; Wheal Kitty, 2¼ to 2¾; Wheal Prussia, 1⅜ to 1⅝; Wheal Uny, 3 to 3¼; West Kitty, 2⅞ to 3⅛.

— Mr. M. W. BAWDEN, Liskeard (March 17), writes:—The mining market has been steady during the week, and most shares fully maintain their prices; Carn Brea, East Pool, West Basset and Wheal Agar chiefly in demand at advanced prices. At South Caradon Mine meeting, held on Tuesday last, the accounts showed a balance in favour of the mine of 1804*l.* 5s. 6d., which was carried to the next account. Subjoined are the closing prices:—Bedford United, 1⅞ to 2; Carn Brea, 127 to 128; Gunnislake (Clitters), 4¼ to 4½; Cook's Kitchen, 11½ to 12; Dolcoath, 56½ to 57; Drake Walls, 1¾ to 2; Devon Consols, 11½ to 12; Devon Great United, 2 to 2¼; East Caradon, 1⅛ to 1¼; East Crebor, ¾ to ⅞; East Herodsfoot, 1 to 1¼; East Pool, 34 to 34½; Gawton United, 1¼ to 1⅜; Glasgow Caradon, 1 to 1⅛; Herodsfoot, ⅞ to 1; Hingston Down, 1½ to 1⅝; Kit Hill Consols, 1 to 1¼; Lady Bertha, ⅜ to ⅞; Marke Valley, 1¼ to 1⅜; New West Caradon, ⅝ to ¾; North Herodsfoot, ⅜ to ½; Old Gunnislake, ¾ to ⅞; Phœnix United, 2½ to 2¾; Prince of Wales, ¾ to ⅞; South Caradon, 55 to 57½; South Condurrow, 9½ to 10; South Crebor, 1 to 1⅛; South Crofty, 10 to 10½; South Devon United, 3¼ to 3½; South Frances, 10½ to 11; Tincroft, 18½ to 19; West Basset, 15 to 15½; West Caradon, ¾ to ⅞; West Crebor, ⅜ to ½; West Frances, 10½ to 11; West Mary Ann, ⅞ to 1; West Phœnix, 1¾ to 2; West Tolgus, 30 to 31; Wheal Agar, 8 to 8¼; Wheal Basset, 4¼ to 4½; Wheal Crebor, 4 to 4¼; Wheal Grenville, 9 to 9¼; Wheal Hony and Trelawny, 2¾ to 2½; Wheal Kitty, 1¾ to 2; Wheal Jane, ½ to ⅝; Wheal Peevor, 19½ to 20; Wheal Uny, 3¼ to 4.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (March 17), write:—The past week furnishes another contribution to the already long list of flat weeks, and so far as business transacted is concerned what we have to record to-day is even worse than for some time back, the number of dealings reported being very small indeed. The weather of the past two days has been very genial and spring-like, and probably a spell of such weather might strengthen things somewhat, but it appears unlikely that permanent improvement will ensue till both home and foreign affairs assume a more settled appearance. The markets have presented some features at times, but they continue weak, and though fluctuations have occurred there is no strength to establish any upward movement which can be called at all general.

BANKS, though almost entirely neglected during the first half of the week, have in the last few days produced a few dealings, prices realised being at or near current rates lately marked. The variations are few—Higher: National Provincial (new), ½.—Lower: Bank of Liverpool, ¼; Manchester Joint Stock, ¼; and Manchester and Liverpool District, ⅛; the last named being slightly lower at one time.

INSURANCE.—The business done in insurance shares has been remarkably small, and is totally without feature worth mentioning, except a transaction in English and Scottish Boilers, which have realised 15/16, a distinct advance on prices lately obtained. On the other hand, Boiler Insurance and Steam Power have been done at 5⅛, having lately fetched 6¼. In two cases better prices are marked amongst altered quotations, and they are decided, being a rise of ¾ each on Commercial Union and Royal (Liverpool). The adverse changes are not so distinct movements. They are—Boiler Insurance and Steam Power, ⅜; Liverpool and London and Globe, 3 1/16; Maritime, 3/16; Sea, 1/16; Thames and Mersey Marine, 1/16; and British Re-Insurance, 1s., all lower.

COAL, IRON, &C., AND MINING.—Elsbw Vales, at prices ranging between the figures quoted last week, show the principal dealings; indeed, with the exception of these, and a few transactions in Bolckows and Canadian Coppers, very few lots in this class have changed hands. Some changes of quotations are worthy of remark, notably the rise in Bilbao Iron and Tharsis Sulphur, &c., and the decline in Llynvi Tondu Coal and Iron. In full, the changes are—Higher: Bilbao Iron Ore, 3½; Tharsis Sulphur and Copper, 1½; John Brown, ½; United States Rolling Stock, ¾; and Canadian Copper, &c., 1s. Lower: Llynvi Tondu, 1¼; Telegraph Construction and Maintenance, ¾; West Cumberland, ½; Chillington Iron, ⅜; Bolckows (12*l.* paid), ¼; Patent Nut and Bolt, ¼; and Teesside Iron, 1/16.

COTTON SPINNING AND MANUFACTURING SHARES, with continued flatness in their trade, rule dull; but prices are maintained fairly well, and there is no great disposition to accept much reduced rates.

TELEGRAPHS.—Western and Brazilian have been done a few times, and figures have moved upwards somewhat rapidly, but Anglos mark a decided fall in all issues. The changes show Western and Brazilian 15/16 higher, but Anglo ordinary are 3½, ditto deferred 2¾, and ditto preferred 1½ lower.——CANAL SHARES: There is less doing than last week, and without further change in prices.——CORPORATION STOCK, &c., not dealt in much, and the only movement in values is a rise of ¼ in Blackburn stock.

MISCELLANEOUS SHARES are dull, and figures, where changed, are rather worse, excepting in Manchester Commercial Buildings, which quote about ⅛ higher, Barton and Jones, however, are ⅛, Union Plate Glass 2, Southport Winter Gardens ⅛, and Southport Botanics ⅛ lower.

RAILWAYS.—Since our last report railways have shown a decidedly adverse movement, especially in Scotch stocks and north-easterns, and although some have recovered from the weakness, there is no real strength in the market. The North British dividend is announced at 2 per cent. with 3500*l.* over, which caused their value to decline to 81, recovering again to 82.

The letter in to-day's *Times* on the iron trade has not helped North-Easterns, and these close with an uncertain tone. Canadians have moved about at reduced figures, and the tendency is not strengthened by to-day's Grand Trunk traffic 3535*l.* increase. Americans are unsettled, being influenced by the New York markets, and lower prices have ruled generally.

HULL.—Mr. W. FOWLER SUTTON, stock and share broker, St. Mary's Chambers (March 17), writes:—The railway markets have been decidedly flat this week, generally from evident causes. Trade reports are not satisfactory; and, though the fine weather is an important factor as regards the passenger lines, yet if the people are are not making money they are not likely to spend what they have when it can be avoided, and consequently it must affect all sooner or later unless matters mend. Trunk stocks have fluctuated violently during the last few days, but to-day's traffics should reassure holders, and put an end to a groundless scare. Business in local stocks is very limited, but prices are firm, with one or two exceptions. Hull Bank, 12¼; London and Yorkshire, 32s. 6d.; Yorkshire, 26; Earle's Shipbuilding, 20½; Hull Trams, 9⅛; Hull Dock, 88; Sutton Gas, 13; Hull and Barnsley Rail, ⅜ dis.

NEWCASTLE-ON-TYNE STOCK EXCHANGE.—Messrs. SPENCE and IRWIN, stock and share brokers, Grey-street (March 17), write:—Our market has been very inactive this week, and prices generally range lower. Bede Metal and Chemical Company issued their report on Monday, and it may be looked upon as favourable, seeing they intend paying a dividend of 25s. per share, and carrying forward a good surplus. Bolckow Vaughan and Co.'s (20*l.* paid) shares are 29½ to 29¾; 12*l.* paid, 4¼, 5 prem.; and 5 per cent, 20⅞ to 21.—Consett Iron: Several large buyers having come on the market at 17 prem. the price has improved to 17½ prem, whilst none are now offered under 18 prem. Consett Spanish Ores, 32s. 6d. to 33s. Darlington Irons are quiet at 17¾ to 17½ dis. John Abbot and Co.'s shares remain 25 to 24 dis. Palmer's Shipbuilding and Iron shares to the surprise of many people are flat after the interim dividend. The A shares stand at 23¼ to 23¾; and B, 6, 5¼ dis. Skerne Irons are now offered at 5 without tempting buyers. Tees Side Iron and Engine Works Company's ordinary shares are offered at 2, and preference at ⅛ prem.; no buyers.

Tharsis Sulphur and Copper Company's shares are now at 41. West Cumberland Iron and Steel shares are offered at 10 dis., whilst 10½ dis. is best bid. Crookburn Mine shares still continue in good demand at 12s. 6d. prem., with no sellers.—Dubby Syke Mine: Sellers at 5s.; no buyers. Green Hurth Mine are lower this week, being offered at 7 3/16, whilst 7⅛ is bid. Harwood Mine shares are enquired for at 1s. 6d. Hexham and Edmondbyers Mine at 22s. 6d. to 25s. North Green Hurth Mine (1*l.* paid) shares are 1*l.* 2s. 6d. to 1*l.* 5s., and 2s. 6d. paid shares 2s. 6d. to 3s. 6d. prem. Teesdale Mine ordinary shares could be bought, we think, at about 8s. each; 9s. is bid for the preference, but there are no sellers at the moment.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebrcker and ironbroker (March 17), writes:—During the past week the fortnightly settlement being in progress has restricted business, but the rates of continuation proving lighter than for some time past, along with the favourable weather, have made prices firmer, although the want of any decided recovery in the metal markets, or other favourable circumstance, checks the general rise for the present.

In shares of coal, iron, and steel companies the movements for the week comprise an advances of 2s. 6d. per share on Bolckow, Vaughan; but the other alterations are downwards—Monkland Preference, 19s. per share; Steel Company of Scotland, 6s. 3d.; Monkland Ordinary, 6s.; Glasgow Port Washington, 4s.; Chillington Iron, 3s. 9d.; Ebbw Vale, 2s. 6d.; Marbella Iron, 2s.; Omoa and Cleland, 1s. 6d.; and Clyde Coal, 1s. Benhars remain at 10s. 6d. to 11s. In the Scotch pig-iron market the price of warrants has declined from 49s. 4d. to 48s. 5d., owing to the decrease shown in the shipments now as compared with those of last spring. So far the favourable weather has failed to stimulate the demand, which consequently remains much below the output, while no steps are being taken to reduce the latter. Bilson and Crump Meadow are at 60s.; Bilbao Iron, 31; Bolckow, Vaughan, 29 to 29¾; Cardiff and Swansea, 35s. to 40s.; Chapel House Colliery, 10s. to 20s.; Chillington Iron, 68s. 9d. to 71s. 3d.; Clyde Coal, 83s. to 85s.; Ebbw Vale, 9⅞ to 10½; Henry Briggs, A, 10½ to 11½; John Bagnall and Sons, 5s. to 7s. 6d.; Lochore and Capeldrae (pref.), 11; Lofthouse Colliery, 40s. to 60s.; Llynvi and Tondu, 12¾; ditto (pref.), 77s. 6d. to 82s. 6d.; Marbella Iron, 83s. to 85s.; Monkland Iron and Coal, 30s. to 32s. 6d.; ditto (pref.), 54s. to 56s.; Oakham Colliery (pref.), 5s.; Omoa and Cleland, 27s. 6d. to 30s.; Steel Company of Scotland, 10¾ to 11; and Thorp's Gawber Hall, 20s.

In shares of foreign copper concerns Tharsis (new), have advanced 2*l.* per share; ditto (10*l.* paid), 15s.; Rio Tinto, 2s. 6d.; and Canadian, 6d.; but Huntington's are 1s. 6d. easier. Tharsis advanced from 38⅞ to 41⅛, but are now easier at 39½ to 39¾. Canadian, 44s. to 46s.; Huntington, 56s. to 57s.; Panulcillo, 6⅜ to 6½; Rio Tinto, 22½ to 23; and Yorke Peninsula, 3s. 9d. to 6s. 3d.

In shares of home mines business has been a little more active, but the change in prices is not important, owing to the quiet state of the metal market. Glasgow Caradons easier at 19s. to 20s. Blaen Caelan are at 21s. 3d.; Cambrian, 12s. 6d.; Cwm Pryf, 7s. 6d.; Devon Great United, 40s. to 50s.; East Botallack, 30s. to 40s.; East Buller, 12s. 6d.; East Chiverton, 30s. to 40s.; East Long Rake, 30s.; East Roman Gravels, 12s. 6d. to 17s. 6d.; East Pool, 35; East Van, 40s. to 50s.; Gawton, 25s. to 30s.; Grogwinion, 40s. to 50s.; Indian Queen, 40s. to 50s.; Killifreth, 5s. to 7s. 6d.; Llanrwst, 2s. 6d. to 5s.; North Penstruthal, 30s. to 40s.; North Hendre, 5½; New Wye Valley, 27s. 6d.; North D'Eresby, 20s.; New Kitty, 27s. 6d. to 32s. 6d.; Parka Consols, 40s. to 50s.; Pant-y-Mwyn, 15s. to 25s.; Pen-yr-Orsedd, 20s.; Tamar, 15s. to 25s.; Trevince Consols, 25s.; South Crebor, 20s.; South D'Eresby, 13s. 9d.; West Kitty, 50s. to 60s.; West Phœnix, 40s. to 50s.; Wheal Agar, 7½ to 8½; Wheal Fortune, 40s.; Wheal George, 52s. 6d. to 57s. 6d.; Wheal Hony, 42s. 6d.; Wheal Owles, 5½ to 6½.

In shares of gold and silver mines there has been more business doing, Indian companies being most in demand. Richmonds are firmer at 16⅝ to 16⅞; Australasian Mines are at 5s.; Brazilian Gold, 22s.; Callao Bis, 35s. to 40s.; Cedar Creek, 2s. 6d. to 5s.; Chontales, 2s. 6d. to 3s. 9d.; Gold Mining Association of Canada, 10s.; Gold Coast, 5s. to 7s.; Haven Gold, 22s. 6d.; Indian Trevelyan, par to 5s. prem.; Indian Glenrock, 47s. 6d.; Indian Phœnix, 32s. 6d.; Indian Mammoth, 5s. dis. to par; Mysore Reefs, 2s. 6d. prem.; Nava de Jadraque, 10s. to 12s. 6d.; New Gold Run, 5s.; Pesteremi, United, 7s. to 8s.; ditto (pref.), 17s. 6d. to 22s. 6d.; Pitangui, 60s. to 70s.; Rhodes Reef, 25s.; South Indian, 60s.; and Tolima (A), 60s.

In shares of oil companies Oakbank have improved 6d. per share, but Young's Paraffin have declined 12s. 6d.; Uphall, 10s.; and Broxburn, 5s.; Young's Paraffin declined from 12½ to 11¾, owing to reported declined in the price of petroleum, but are now firmer.

In miscellaneous shares there is no particular alteration to notice, Langdale's Chemical are at 52s. 6d.; Lawe's Chemical, 5¼ to 5¾; Scottish Wagon, 9; and ditto (new) 58s. 6d.

DISCOVERY OF LEAD IN ABERDEENSHIRE.—The breaking up of the ice on the Dee has cleared away several acres of soil from a field, leaving the rocks bare for about a mile in length by 40 yards in width. On this cleared space the lead has been discovered, the ore having the appearance of being very rich in quality.

MONKLAND IRON AND COAL COMPANY (Limited).—At the annual meeting of this company, on Tuesday, the Chairman said the year opened with prospects of getting into a fairly profitable condition, and the high prices realised enabled the debit balance at their bankers to be removed, and a credit balance substituted. The reaction in prices, however, with the strike in the autumn, proved disastrous to these better prospects. When furnaces are once damped down, it takes a long time after re-lighting again to get them to do equal duty; hence the output (58,330 tons) is a decrease of 15,204 tons, or 21½ per cent. Another serious effect is the tying up of capital through increased stocks—ironstone alone having increased 17,454*l.*, and the total stocks (96,159*l.*) being 26,000*l.* higher. The unsatisfactory position of the concern is, however, due to the debenture debt being mostly at call; and at the directors' request a committee of shareholders was appointed to confer as to how this could be remedied. The satisfactory feature is that the financial pressure has been caused by trading losses only to the small extent of 256*l.*

On Contango Day the following were the rates of continuation current:—Contangos: 1½d. on Benhar Coal; 2d., 1d., on Canadian Copper; 3d. on Clyde Coal; 2d., 1½d., 1d., on Caradon, 1½d., on (new); 5d. on Glasgow Port Washington; 5d. even, 6d. on Huntington; 6d., 5d., 4d., 4½d. on Marbella; even, 1d. on Monkland Iron; 3d., 2½d. on (pref.); 2d. on Omoa; 7½d. on Panulcillo; 2d. on Pary's Copper: 3d. on Rio Tinto; 6d. on South Indian; 4½d. on Steel Company; 4d. on (new); 1s., 6d., 3d. on Tharsis; 6d. on West Kitty; 9d. on Wheal Crebor; 1s. on Wheal Grenville; 6d. on Broxburn; even, 3d., 6d. on Uphall Oil; 1s. 6d. on India Rubber. Backwardations: 1s. on Paraffin. On comparing the making-up prices fixed to-day for the following shares with those current at last settlement for the same shares, the variations thus shown to have taken place during the account are as follows: Tharsis (new) have advanced 1*l.* 7s. 6d. per share; Tharsis (10*l.* paid), 1*l.* 2s. 6d.; Panulcillo, 3s. 9d.; Canadian, 2s. 6d.; Richmond, 2s. 6d.; and Huntington, 1s. On the other hand, Uphall, are reduced 1*l.* 12s. 6d.; Monkland (pref.), 1*l.* 3s.; Young's Paraffin, 17s. 6d.; Rio Tinto, 1s 6d.; Broxburn, 10s.; Oakbank and Monkland, each 6s.; Glasgow Port, Washington, 5s.; Steel Company of Scotland, 5s.; Clyde Coal, 4s.; Steel Company of Scotland (new), 2s. 6d.; Glasgow Caradon and Omoa, and Cleland, each 2s.; and Marbella, 6d. The remainder are unaltered—viz., Benhar Coal, and Glasgow Caradon (new).

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and sharebrokers, Princes-street (March 10), write:—The railway market has remained depressed during the past week. To-day the North British dividend was announced at the rate of 2 per cent. Canadian preference stocks have been flat. Commercial Bank has receded from 254 to 251, Royal from 204½ to 204. In insurance shares Life Association have risen from 29 to 30, and Scottish Union from 70s. 6d. to 72s., while North British and Mercantile have receded from 67¼ to 65. In mines Glasgow Port Washington have declined from 40s. to 36s., Huntington Copper from 59s. to 56s., Monkland Iron from 33s. to 31s. 6d., ditto Guaranteed from 71s. to 55s. Tharsis have risen from 38⅞ to 39⅞. Oil shares have been weak. Broxburn have receded from 23¼ to 23, Oakbank from 41s. to 40s., Young's Paraffin from 12¼ to 11¾. Uphalls have risen from 6⅝ to 7⅛.

IRISH MINING AND MISCELLANEOUS COMPANIES' SHARE MARKET.

DUBLIN, MARCH 17.—There has been absolutely no revival in the mine share market during the week; indeed, there has been scarcely a transaction; but, if we accept home government funds and railways, the entire market has been equally inanimate. In Canadian Rails Trunk stocks opened very flat, but afterwards rallied somewhat. Third Preference was dealt in at 43⅞ and 44. In railways, Cork and Bandon was fairly well supported, and sold at 87 ex div. Great Southern was firmer, and advanced 1s. 3d., to 113⅛ ½. Midland Great Western firmly supported yesterday's quotations. North British was dealt in at 83, and was steady.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (March 16), write:—Markets remain dull. Great Southerns are 113¼ to 113½ ex div, and Midlands, 86 ex div. Bandons, 88½, and Macroom Preference sellers, at 6¾. Passages asked for at 10½. National Banks, 66¾ to 67, and Provincials, 60¼ to 60½. Munsters are steady at 6¼ to 6⅞. Cork Steam Packet are dull at 12¼ to 12½, and Lyons Shares are about 5*l.* ex div. Da ys remain at 3, and Gas shares are offered at 7¼. Goulding are strong at 9⅛ to 9¼, and Harbour Board Debentures at 102½ to 102¼.

NEW RIVER COMPANY.—The recent sale of shares in the New River Company by Messrs. Fox and Bousfield, at the Auction Mart, shows an advance in value, portions of freehold King's shares being sold at the rate of 93,225*l.* per share, whereas in 1876 the market value of a King's share was 90,000*l.* What are known as "King's shares" represent one-half the original 72 shares. They were taken over by King James I. from Sir Hugh Myddelton, in consideration of providing half the original cost of the undertaking—about half-a-million of money. The remainder, which are called "adventurers' shares," have certain speculative advantages, and are worth, as a rule, a trifle more. The 100*l.* paid-up shares, which were also sold last week, at an average price of 380*l.* per share, represent additional capital raised in more or less recent times.

Mr. James Alexander, jun., of Messrs. Redfern, Alexander, and Co., has joined the board of the London and Provincial Marine Insurance Company (Limited).

Meetings of Public Companies.

MYSORE REEFS GOLD MINING COMPANY.

The statutory meeting of shareholders was held at the company's offices, Austinfriars, on Thursday,

Mr. THOMAS EYRE FOAKES in the chair.

Mr. R. HODSON, the Secretary, read the notice calling the meeting.

The CHAIRMAN said: Gentlemen, this being the statutory meeting, we can tell you but very little as to the progress of the mine. First, as regards the title; that has been secured, and it is a perfectly good one. (Hear, hear.) I am happy to tell you that our solicitor is present, and if necessary he can state that it is about to be sent out to India for confirmation, he having duly examined it, so that in a very short time it will be completed. There are many advantages with reference to this property, which I propose briefly to touch upon. In the first place, unlike many of the other of Indian gold properties, we are within four miles from the Colar Railway station, which is a very great advantage on account of the facilities it affords for carriage. We have 320 acres of land, and for a portion of this we have had an offer to sell from one or two sources. Indeed I may say before we secured the title we had two offers to purchase some portion of the territory we have acquired. There arose several questions which had to be decided before we could deal with any offer of the sort. In the first place, we felt that we should be really selling "a pig in a poke," and I thought myself it would be better almost for us to wait and work a large portion of our property, because if the results which we anticipated were realised we should get a much larger sum presently than we could get now. I may mention to you, as I dare say you know, that our own purchase money was 75,000*l.* The offer we had was for half our property, and it would have been an uncommonly good thing if we could have sold half the property for the whole sum which we gave for it. That matter remains in abeyance, but I am not sure that we shall not even yet be able to carry it out if we see fit to do so. There is another point which it is necessary to consider in mining, and that is the supply of water. We have no large rivers there, but there are streams from the hills, and, as you know, there is a wet and a dry season. The custom has been hitherto in working mines of this kind to make very long tanks. What I think we should in all probability have to do will be to make very large tanks, and to store our water so as to make the water-power available as far as possible in aid of the steam-engines. I cannot, of course, give you at present any data that would be reliable as regards the amount of water that we should be able to make available, but I am told that a very amount of water comes from the mines, and there is no reason why that should not be pumped into the reservoirs, and so a continual supply be derived from that source. Then, gentlemen, as regards the machinery. At present, as I have told you, we had only just completed, or rather are about to complete, the purchase. It would not have been competent for us to have spent any money in machinery until possession was given, but I am happy to tell you that we have had this morning specifications placed in our hands for the machinery that we propose to send out in the first instance. We are about to obtain the machinery, and I hope in a short time from this we shall be able to dispatch a large quantity of what we require, both in tools and steam-engines, stone-breaker, and stamps to the mines, in order to the commencement of the working. We are also in communication with a gentleman with reference to the sending out of skilled miners and a superintendent to look after our works, and to see that everything is in ship-shape and in business-like order, and in two or three months I think that we shall be able to send you out some sort of notice saying what we have done. What I should like to do would be to send you every month some sort of statement of what progress has been made in the previous month. I am of opinion that it is a wise thing for shareholders and directors to be in communication with one another so that the shareholders may be acquainted with all they desire to know as regards the progress made with their works. I have done that with another company, of which I have been and still am the chairman, and have found it attended with the most beneficial results. Whatever sort of disastrous news comes to the directors the shareholders always know what is the real state of affairs, and they have that confidence in the faithfulness of the news set forth in these monthly reports that they are often relieved from the anxiety to sell their shares as they might otherwise do at a serious loss, and knowing the real state of the facts, they are induced to hold on. That is a course I hope this board will adopt, and I have no doubt it will do so. I should be happy to answer any question that any one may put to me, but to-day we have no resolution to pass because we have no formal report to make to you and no accounts to present. The secretary has just placed in my hands a memorandum to the effect that Prof. Vazie Simons, of whom you have all heard, stated to the board from his own observation that the supply of water would be ample for the mines and for storage. That is important. If we can have plenty of water it is the cheapest way of working the stamps, and of doing all we have to do by machinery. There is one other point I wish to mention, and that is with reference to the monsoon. In our part of India on this side of the hills where our property is situated we shall not suffer from the monsoon as they will on the opposite side. The monsoon is a very expensive and troublesome thing to deal with on the other side of the hills. It prevents the works, except those underground, for four months in the year, and during that time very little can be done that is not under shelter. We shall not suffer from that serious disturbance. Then there is one other thing I must mention, and that is the settlement on the Stock Exchange. We have put our papers before the committee of the Stock Exchange and formally applied for a quotation, and I hope that in a very short time the necessary permission will be accorded. We are not able to press the matter forward. The committe of the Stock Exchange—I do not say it disrespectfully of them—are a very arbitrary body, and take their own time, and we can only hope that the time they will take in this case will be brief—in other words, that they will give us a quotation as soon as possible. (Cheers.)

In reply to a SHAREHOLDER, he stated that the surface was almost valueless, but if they sold they would sell all their rights over the portion sold. The Rhodes Reef Company bought 50 acres of the Devala-Moyar Company for 130,000*l.* Their capital is 190,000*l.* If they could do anthing like with their 330 acres they would make a good thing for the shareholders. There were six reefs on the Mysore Reefs property. They traversed the whole of their ground, which is on the Oregum block.

The CHAIRMAN: I think you will find in the course of another fortnight or three weeks—or (say) a month—that we shall have what I call the best of news—that is, news of the actual working of the stamps from one or two of the companies—the Colar, the Ooregum, and some other company. I look myself upon assays in the laboratory as most unreliable, because we know that in the laboratory you can get out the least particle of gold; but when you come to work with quartz in the reef you must treat your produce on a commercial basis, and the laboratory results are then found to be absolute nonsense. At the same time, I think that the 44 tons of ore treated by the Ooregum Company in the rough, and producing so large a result as nearly 1 oz. to the ton, is a real and tangible way of testing what the value of the quartz is.

A SHAREHOLDER: How many shares have been allotted?——The CHAIRMAN: 110,000. Just when we were about to allot we had one of those offers, and thought it undesirable to allot the remaining 10,000 shares. Those shares, therefore, we did not allot, and I do not think it will be necessary to do so.

A SHAREHOLDER elicited that the share list had been definitely closed since Dec. 11. They had nothing to do with people who have got allotments and shares and sold them. He added, with regard to the 10,000 unallotted shares you would not, I presume, now allot them until you called together the shareholders?

The CHAIRMAN: I think not. I think the proper course is not to make any further allotment. That extra 10,000*l.* was one of the things I suggested when I was asked to become Chairman of this board. I do think it most essential that when you go into a mining company you should have ample capital. Hence I thought it better to have the 120,000*l.* so as to have a good margin, but when we came to see the true value of the property, and had these sorts of offers to buy some of it, I thought it unnecessary to issue the other 10,000 shares, but what we should do will be if we do issue them first to consult the shareholders, and next to give them the priority of application *pro rata*, according to their present holdings. That will of course be done. (Hear, hear.)

A SHAREHOLDER: Will you call up the instalments on the issued shares first?

The CHAIRMAN: I can hardly answer that. It must depend very much upon what the works produce. It may be that we shall come to gold, and to returns very shortly, and in that case it might not be necessary to issue these shares, but I should not like to pledge myself.

A SHAREHOLDER: Are there any old workings on our property?——The CHAIRMAN: Yes; they abound. We have the deed here, and my friend, Mr. Peter Watson (the London Manager), reminds me of what I had forgotten in the multiplicity of advantages which this concern possesses. We are very anxious to have the four miles which separate our property from the Colar Railway station bridged over by a railway, and we have with that view placed ourselves in communication with the Madras Railway Company asking them to make a loop line to our mines. All the mines belong to the Mysore range, and there will be a large amount of traffic, and we thought if we placed ourselves in communication with the directors, in conjunction with the other companies, we might get a loop line made, which would be a very great advantage to us.

A SHAREHOLDER: Are you doing that in conjunction with the other mines?

The CHAIRMAN: I have said so. We are making a sort of joint application, which has before the board in London, and they have referred it to their people in India, and we are awaiting a communication from them on the subject.

A SHAREHOLDER: Have you any information to give us as to the pumping machinery?——The CHAIRMAN: I cannot tell you exactly. I have a specification of what we propose to send out. We have not quite made up our minds. We are in consultation with the engineer. We should not act without the very best advice, and we shall act finally. I hope, so as to get the best possible return with as little delay as possible. My idea of mining is to spend your money as rapidly as you can if you can spend it well, but do not spend it it extravagantly because you happen to be a company. (Hear, hear.)

A SHAREHOLDER: What process will you adopt for extracting the gold?——The CHAIRMAN: The Australian process, and one important point remains that I had almost forgotten. This gold is very pure. There is no pyrites in it, so I am informed. That is a very important element, because when gold is mixed with pyrites it is a troublsome and expensive operation to separate it. This has been got over to a certain extent, but still it costs a great deal of money. We based our calculations in the prospectus on getting 3*l.* 10s. an ounce, and I think we shall get 3*l.* 17s. The price at which the Ooregum gold was disposed of was 3*l.* 17s.

Mr. M. LOW: I am sure we are extremely obliged to the Chairman for the able and lucid manner in which he has placed the position of affairs up to the present moment. I have great pleasure in moving a vote of thanks to you, Sir, for your conduct in the chair, and for the admirable way in which you have explained matters to us. (Cheers.)

A vote of thanks to the Chairman was unanimously passed.

The CHAIRMAN, in returning thanks, said: I have tried to do my best to explain the position to-day, and my colleagues and I will do our best to make your company a great success. It will be an immense pleasure if we can the next time we meet be able to show you that we have made great progress, and perhaps had a good offer for a sale of some of our land.

Mr. PETER WATSON (the London Manager) said that they were looking out for a manager of the mine, and for a steady and industrious staff of miners to go out. We are about, he continued, to advertise with this object; but independent of that, we have in our mind's eye a very good man. I may say I am personally in communication with one, and also with a view to securing a staff of miners. If we send out half-a-dozen of the picked miners of Cornwall and Devon to teach the natives how to work and to conduct mining operations as they are conducted here, it will be a great advantage to this company. I have not been to India myself any more than has our worthy Chairman. Hence we have been obliged to hear what we have been told, and to form our own opinion as business men; but the evidence is circumstantial and complete that we have here no ordinary property; and that, to say the least, we have one with prospects as brilliant as any of the 23 companies that are now before the public, the nominal capital of which I may tell you is 2,717,000*l.* The directors have nothing to do, gentlemen, with the price of the shares, though they have a pretty strong opinion of the value of those of this undertaking. They would prefer to surround themselves with a constituency of investors rather than of speculators, for a pretty lengthened experience had taught him that those who stand by mining the longest reap in the end the most substantial reward. (Hear, hear.) If they invest their money in a good district that is almost certain to be their experience. There are a good many people who are simply premium-mongers. They come in to-day and are out to-morrow at a small profit, or at a small loss, as the case may be. They "skeddale," as our American friends would say, and, so far as we are concerned, that is the best thing they can do. (Laughter.) I think, however, those men who like to go into these things with their eyes open are simply following King Solomon, who stuck to his interest as long as he could, and was rewarded with 600,000,000*l.* sterling—*vide* the speech of the Chairman at the Rhodes Reef meeting, as reported in the *Mining Journal*. If you, gentlemen, constitute yourselves the legitimate successors and followers of King Solomon you may find that there is something tangible in the gold manla, and that even he was not astute enough to avail himself of all the riches of the gold fields of Southern India. (Cheers.) Personally I know nothing of gold mining in this region. I profess to know something of home mining—(cheers)—but from all the reports that come to me from India, and from what I hear from people who have seen this property—and one of the gentleman in question is with us to-day—I have learned to form a high opinion of it, and to think that it is well worthy of the time of English directors to manage it, and of English capital to develope it. So far as your directors are concerned they are most attentive to their duties, and one of their number is out in India now. The Chairman and I had an interview with the gentleman who has gone out semi-officially, and I dare say in a few days he will reach the property, and we may hear something from him. At any rate, of this you may rest assured, that whether the news be good or bad you will always have it from the directors and from me. (Cheers.)

The CHAIRMAN pointed out that from other companies practical results might shortly be expected, and he believed that if they were satisfactory the shares would rise enormously in value. There would be a tremendous rush in the market to buy them, and it was not difficult to foresee what the result to this and to the other companies would be.

Mr. ANDERSON: Gentlemen,—I have been over your property. I made experiments myself. I went there to see what could be done by a rough treatment of the stone, and by washing the ground in the neighbourhood of the reefs. I was there for three or four days, and took a considerable number of people with me, and they were all employed in breaking the stone and washing it; and in no case did I fail to see gold on this property and on the adjacent one as produced from these particular reefs. I know that the same reefs which run through the Ooregum block also run through the whole extent of your ground. There are six reefs, with veins and outcrops. Now, it has been ascertained that they are true fissure veins, and those in America increase in richness as they go down, and will doubtless do so here. They have proved fissure veins in California to a depth of 2000 ft., and there is no reason whatever why the Mysore reefs should not also be equally as rich. A gentleman just returned from your district was in one of the Ooregum pits 70 ft. deep, and broke off stone which assayed 5 ozs. to 1 ton. (Hear, hear.) In reply to a SHAREHOLDER, he continued that the workings were stopped on account of water. It was impossible to get down because they had fallen in. The natives could not get the water out, and they had no money for timbering the shafts. Accidents frequently happened, and two or three of the mine for this reason were stopped by the Rajah.

Mr. HARVEY said that the same system of unwatering mines prevailed in India as China, where it was ascertained that it was raised by buckets on the backs of coolies. He described the primitive character of the workings, and said that the natives had no knowledge of pumping machinery.

Mr. PETER WATSON referred to the plan belonging to the company, and showed that some 50 or 60 places scattered over the 320 acres had been explored, 30 or 40 of which were important. The company wanted a good man to go out and tell them the honest truth, and miners on whom they could rely to work vigorously. The company would lose no time in dispatching the machinery at first absolutely necessary, and supplement it as occasion arose. They would go steadily to work, and, according to what they had seen and heard, the prospects were most promising. (Cheers.)——The proceedings then terminated.

SANTA BARBARA GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the company's office, Cook-street, Liverpool, on March 7, for the purpose of considering the expediency of increasing the capital of the company,

Mr. E. S. HOLLAND in the chair.

The SECRETARY having read the notice convening the meeting,

The CHAIRMAN said—We are met together to-day, gentlemen, to consider the advisability of increasing the capital of the company, and I think that in the present position of matters you will all feel satisfied that this increase is fully demanded in the interests of the undertaking, and I hope you will likewise concur in the manner in which the directors propose to raise such additional capital. The circular forwarded to you on Feb. 23, which was accompanied by a copy of Mr. Thomas Tregellas's letter to the directors, dealing with the position and prospects of the Pari Mine, will have prepared you for the resolution that I shall presently propose, and as Mr. Tregellas's letter explains the matter so succinctly, I shall make but few remarks thereon. At the present time we have at the Pari Mine a large extent of lode developed, larger than at any former period of its history, and this lode, in spite of its inferior value in the shallow section at the south part of the mine, is, on the whole, of good average value as far as can be seen. The workings, however, having reached at their deepest part a depth of some 50 fms. below the deep adit level, the hauling hitherto in vogue—by means of a whim worked by animal power—is found to be inadequate to cope with the requirements of the mine; and in order to raise a larger quantity of mineral to the surface with dispatch and economy it is requisite that water power be brought on to the mine to work new hauling machinery. We shall also want more stamping power to deal with the larger quantity of mineral that will undoubtedly be hereafter available. The estimate of 20,000*l.* as the cost of these new works, together with some more dwelling accommodation for the force at the mine, &c., as given by Mr. Tregellas, although merely approximate, will not, we have reason to think, be exceeded, at all events we do not suppose it will be, and the time that may be occupied in the completion of most of these works should not exceed 18 months. When supplied with these means of more enlarged and economical working, we do not see why the mine should not realise the expectations, sanguine although they may seem, of Mr. Tregellas as regards the produce of gold, while the working expenses we know cannot exhibit much corresponding expansion, therefore there is every reason to believe that the estimate of profits given in Mr. Tregellas's letter as 40,000*l.* a year may eventually be attained on all the means for properly working the mine being provided, as we intend to provide them. The only point on which it might be thought Mr. Tregellas had been a little sanguine in his letter is as regards the yield of 4 oits. per ton of ore, since we have not reached the standard for some years past; but, on the other hand, it should not be forgotten that as depth is gradually attained in the working of the mine, our ores have a tendency to improve in value, and we may fairly expect that at some time our average will reach this standard of 4 oits. per ton. We think no apprehension need be entertained that there is not an ample amount of ore available. If you will refer to the map before you, you cannot help coming to the conclusion, as we have done, that there is a vast body of mineral ground to be worked on, which, unless appearances belie themselves, should give excellent ore for years to come. With respect to the new capital we now propose to create, the issue of these 20,000 new shares of 10s. each will complete the whole of the capital which we are authorised to raise by our Articles of Association, namely, 30,000*l.* We propose to make the payment of the calls and premium on these new shares, payable as follows, 5s. on March 31, 5s. on June 30, 5s. on Sept. 30, and 5s. on Dec. 31, thus getting in the whole of the 20s. in the course of the year. The money may not be expended in so short a time, but we think it advantageous to put the new on a footing with the old shares as from the beginning of next year, 1882. As an inducement to shareholders to take up the shares we propose to give these new shares the right to dividend for the current year, as if 5s. per share had been paid thereon, although the dates of the calls do not quite entitle them to such a proportion; the privilege will also be given to the existing shareholders of renouncing their right to all or any portion of the new shares to which they are entitled in favour of any person on or before March 21. I do not think that I have anything to add to these few remarks, and will now put the resolution for the increase of capital, after the seconding of which I shall be glad to reply to any question that may be asked. I now beg to move—

That the capital of the company be increased to an amount of 10,000*l.* in addition to the present capital, such increased capital to be raised by the issue of 20,000 shares of 10s. each on the terms that such new shares shall be issued at a premium of 10s. per share, and shall be offered by the directors in the first place to the existing shareholders, rateably according to the number of shares held by them at the date of such issue, and that the amount of such shares and the premium thereon shall be payable as follows:—5s. per share (2s. 6d. on account of capital and 2s. 6d. on account of premium) on March 31, 5s. per share (2s. 6d. on account of capital and 2s. 6d. on account of premium), on June 30, 5s. per share (2s. 6d. on account of capital and 2s. 6d. on account of premium) on Sept. 30, and the remaining 5s. per share (2s. 6d. on account of capital and 2s. 6d. on account of premium) on Dec. 31, and that such new shares shall be entitled for the year 1881 to one-half of the dividend per share payable for that period in respect of the present shares of the company, and shall from and after Dec. 31, 1881, rank equally with such present shares as regards dividend, and in all other respects, and on the further terms set forth in the 25th clause of the Articles of Association.

Mr. THOMAS TREGELLAS seconded the resolution.

Mr. GARNETT enquired whether when the new works were completed there would be any doubt of the sufficiency of water power at all seasons, or the prospect of failure in supply during the dry months.

The CHAIRMAN said the directors were informed that the supply would be ample at all times. The owners of the lands through which a portion of the new water-course would pass had been all arranged with, and a sum agreed on, about 300*l.*, as indemnification, to be paid by the company in respect of all future claims for damages.

Mr. WILLIAMSON thought that the premium proposed to be paid was high in view of the present market price of the shares, and that the calls followed one another rather quickly, considering that the money was not likely to be all spent within 12 months.——The CHAIRMAN said that the shareholders would see from Mr. Tregellas's estimate that 20,000*l.* was wanted, and the premium of 10s. per share was to provide this, while as regards the calling up of the amount on the new shares, the directors thought it desirable that both new and old shares should be placed on the same footing the commencement of next year.

The CHAIRMAN, in reply to Mr. PENN, said that the construction of most of the new works was expected to occupy about 18 months' time, but it depended entirely on the force they could get what dispatch was made with the works—at the last advices some 70 men were at work at the water-course alone.

A SHAREHOLDER asked whether there was likely to be much difficulty in obtaining plenty of labour.——Mr. TREGELLAS (director), in reply, stated that there was not so much difficulty in finding labourers for the surface works, but men who would work underground in the mine were not so easily to be found.

Mr. STOLTERFOHT, jun., expressed his general approval of the proposition of the directors as regards the terms of issue of the new shares, and the dates for payment of the calls.

Mr. WILLIAMSON asked that the shareholders might be supplied with copies of a working plan of the mine in order that they might better understand mine reports from time to time.——The CHAIRMAN said that the directors had recently sent out a new head mine captain, who had instructions to prepare a full plan of the mine workings as soon as practicable after his arrival at Pari, and they would be happy to forward copies of such to the shareholders when it came forward.

After some further discussion the meeting decided to adopt the resolution proposed by the Chairman, with the exception that the final payment on the new shares was made payable on March 31, 1882, instead of as first proposed, on Dec. 31 next; and the CHAIRMAN having put the resolution as altered, it was carried unanimously.

The proceedings closed with a vote of thanks to the Chairman.

EAST LONG RAKE LEAD MINING COMPANY (LIMITED).

The ordinary general meeting of shareholders was held at the company's offices, London Wall, on Monday,

Mr. J. TAYLOR (the managing director) presiding.

The SECRETARY read the report convening the meeting.

The CHAIRMAN said: This meeting, as you are aware, is a formal one, to comply with the clause in the Companies Acts, which require a meeting to be held within four months of the formation of the company. I can congratulate the shareholders on having acquired a property so favourably situate, both as regards position and development. The mine is in a neighbourhood that has produced great riches hitherto, and will I believe very shortly, in consequence of the near accomplishment of the work undertaken by the Halkyn District Mines Drainage Company, of which the Duke of Westminster is chairman, be making similar immense returns of lead to what it had done in former times. The mine is in a first-class position in the midst of these rich mines, and from what I have seen of it, and what I know of the formation of the lode, I believe that East Long Rake cannot fail to make large returns, and pay handsome dividends, and that within a very short space of time. This opinion, too, is shared by all who know the property. I am pleased to be able to say that since the acquisition of the property in November last by the company the work of opening up the mine has proceeded uninterruptedly and rapidly; in fact, I know few instances in which such rapid development has been accomplished. This is owing no doubt, in a great measure, to the forward state of the property when taken over by the company, but still a large amount of work has been done; the levels have been cleared out and enlarged so that work can proceed rapidly; the cross-cut at the 50, towards the Gin lode, has been extended through the hard limestone to a point where the lode should be met with, and from the favourable indications in the end at the present time I believe it is close at hand. On the Middle Lode the workings are not so extensive as I could have wished to have seen, nor as they will be when the necessary machinery is erected. There are, however, three stopes, producing good lead, and the end is being driven east to intersect the Wagstaff lode; there is lead in the end, and as the Wagstaff lode is approached I fully expect this will greatly improve, as it is often the case that large deposits of ore are formed at the juncture of these lodes. There is one noticeable feature I must not overlook—the bottom of the level shows by far the best lead, and a winze sunk a few yards below the level shows—as will be seen from Capt. Vercoe's report—better than in any other part of the level; this is a good promise of what is to come when the cross-cut and levels are extended from the bottom of the shaft, which is already sunk 60 fms. deep, and will, therfore, give us 10 fms. of ground untouched (except this 3 fms. of sump) to stope away the whole length of the present working, or, I may say, the whole length of the lode in the sett. The directors have been very fortunate in securing for the mine at an exceedingly low price (about one-fourth its value) a complete equipment of plant and machinery for carrying on the necessary work of the mine. There is a 22-horse power steam-engine, with a 30-ft. boiler and a crushing mill—all nearly new; in fact, they have scarcely been used. Then there are a crab-winch, blocks and chain, iron rails, wagon and kibbles, pithead gearing, jiggers, mining and smith's tools, the necessary wood and brickwork for erecting same, and even office furniture; in fact, the plant is so complete that there will be few, if any, things to be got besides. I expect that tenders will be received in a few days for the removal and erection of these, and when this is done the ore can be rapidly extracted and treated, and large regular returns may be expected. In the meantime the ore broken by the tributers will be dressed by hand, there being now at the surface over 20 tons of leadstuff.

The SECRETARY then read the report of the agent, Capt. H. B. Vercoe:—

March 10.—I have much pleasure in furnishing you with my report for your first general meeting. Since the company took possession of the property a large amount of work has been done, most of it dead work, such as timbering shafts, enlarging old levels, &c. The main engine-shaft has been secured to a depth of 50 fathoms, and ladders fixed therein; this has been well and substantially done, all the frames being of pitch pine and ladder steps of iron; it has been an expensive item, but will now last for many years without further repairs. The underground operations have been principally directed to the 50, but as soon as the dry season sets in I purpose clearing up the shaft to the 60, and commencing cross-cuts to the different levels, two of which are within 7 fms. of the shaft, and have never been touched below the 50, except in a small sump 3 fms. deep, in which there is now a rich course of ore on middle lode. Since operations were commenced we have cleared the 50 fm level cross-cut, which had been filled with debris by the old workers, and have driven about 5 fms. south towards the Gin lode—in fact, we have reached the point where we expected to meet the lode; and judging from the character of the rock in the forebreast today, together with the fact of a little water making its appearance, I am of opinion that the lode is close at hand, and any day I may be able to announce the discovery of a rich course of lead. You have already been made aware that this lode has been immensely rich in adjoining mines, and in East Long Rake, too, at shallow depths, and I firmly believe we shall find it equally so when intersected at the 50. The 50 east, on middle lode, had been driven east of cross-cut about 15 fathoms by the old workers the whole distance through profitable and productive ground. The old level being so very small our first business was to enlarge it to make sufficient space for tramway; this has been done, and the level is now being driven east in a splendid lode, about 2 ft. wide, spotted throughout with lead, the whole being paying stuff for washing; for the short distance we have driven I find the lode in the bottom of the level much richer than in the roof, clearly showing that in the 60 we shall have a much richer lode than we have in the 50. I am daily expecting an improvement in the value of the lode in the 50 east, as we get nearer to the junction of the Middle lode with the Wagstaff lode, as it is at and about these, where all the great deposits of ore are invariably found, besides the Wagstaff lode is untouched in your property, and has been worked on in adjoining mine close to your boundary, and left off in good ore. Too much importance cannot be attached to this point, and I look upon it as one of the best and likeliest pieces of mineral ground in the whole of this district, being in the same parallel, and traversed by the same cross-courses as the celebrated North Hendre Mine, which is now producing 100 tons of lead per month.

There are three tribute pitches at work in the roof of the 50 east. No. 1 is let to six men, at 7*l.* per ton, and is producing 10 cwts. of lead per fathom. No. 2, by four men, is producing 15 cwts. of lead per fathom. No. 3, by two men, is producing 10 cwts. of lead per fathom. The weather has been so severe for the last six weeks that we have been unable to dress the tributers' lead; we have, however, made a beginning, and have cleaned about 2 tons, and have on the surface about 20 tons of leadstuff of good quality, which we propose dressing immediately. You can then make a sale of ore at any time. Nothing has been done done towards the removal of the machinery, but as the weather appears now to be more settled I expect to begin in a few days—that is, so soon as you have decided as to the contracts. The machinery, comprising a 20-horse power horizontal engine and boiler, with winding-drum and crushing-mill, is in first-rate condition, and in every way suited for the requirements of the mine. I am anxious to get it at work as soon as possible, so as to work the mine more extensively, and thereby ensure a large output of ore. When the engine, &c., are in position I advise the development of the 60 under the courses of ore already discovered in the 50, and the driving of the 50 west as well as east. In concluding my remarks I cannot help again referring to the position of your property. You are surrounded by mines some of which have paid their tens of thousands per annum profits, and others are at present very rich. You have the same rich lodes as they have, and intersections and junctions of the right kind for the formation of immense bodies of ore. I, therefore, can only repeat the evidence of every mining expert who has inspected the mine, that you have a very valuable property, and one that does not partake of the nature of an ordinary mining speculation, but a safe investment, and I confidently look forward to a long run of prosperity and large dividends.—H. B. VERCOE.

The CHAIRMAN: There is nothing further for us to do, but I shall be glad to answer any question or give any explanation that may be desired. I fully expect, however, by our next meeting we shall be able to declare a good dividend.

A SHAREHOLDER: I understand but a short distance would have to be driven from the bottom of the shaft to intersect the Middle lode at the 60 ?——The CHAIRMAN: That is so. Only about 7 fms. will have to be driven to cut the Middle lode, when there wil be 10 fms. The lode, as I have said, is looking much better in the sole of the level than in the roof.

There being no further business, the proceedings terminated, all present appearing well satisfied with the prospects.

OLD GUNNISLAKE MINING COMPANY.

A general meeting of adventurers was held at the account-house, near the mine, on Monday,—Mr. J. C. ISAAC in the chair.

The accounts showed an adverse balance of 207*l.* on the four months' working. The report of the agents (Capts. Skewis and A. Seccombe) was read, in which they stated that they had driven 4 fms. into the adit during the past week, and Capt. Skewis added that they hoped to be able to continue at that rate, and if possible to increase it, which would involve a considerable cost in dynamite and labour. He estimated the cost of working the mine for the next four months at 700*l.*, making due allowance for extension of tramway and other work to be done outside. The 10 fms. which had been driven had not cost more than 8*l.* 10s. per fathom, whereas if they had been driven by hand instead of by means of the boring-machine the cost would no doubt have been doubled, because the stationary expenses would have been the same whether a large number of fathoms were driven by machinery or a smaller number by hand.

A discussion ensued as to how the necessary money was to be raised.

The CHAIRMAN suggested a call of 2s. per share.——Mr. H. PEARCE advocated the sale by auction of of the 1100 unallotted shares.

Several of the adventurers expressed an opinion that it would be detrimensal to the interests of the company to put the shares into the market, and Mr. GRENFIELD observed that if the market were flooded with 1100 shares upon the present 8885, the effect would probably be a reduction of the shares, perhaps, from 15s. to 8s.

Mr. PEARCE suggested that the unalloted shares should be put into the market at 12s. each, but it was contended that such a course would still have a tendency to deteriorate the value of all the shares of the mine.

Capt. SKEWIS thought the deterioration would only be temporary.——The CHAIRMAN was decidedly against selling the shares for the present.——Mr. NICOLLS had no doubt they would go like wildfire if offered to the public without reserve.——Capt. SKEWIS suggested that the unalloted shares should be sold, and a call of only 1s. made.

Mr. GREENFIELD was afraid that if the unallotted shares were sold by auction the whole of the shares would be so reduced as never to recover their present value. If the unallotted shares were merged into the allotted ones it would at once put an end to the former, and there would be no fear of their going into the market. They should either allot the shares *pro rata*, or, if that were illegal, merge the shares, and reduce the capital, and at once and for ever put an end to the bogey which was always hanging over their heads.——The CHAIRMAN thought Mr. Greenfield's suggestion a good one.

A call of 2s. was carried.

It was then proposed that the mine should be divided into 17,770 shares; that each adventurer should have one of the unallotted shares.——But Mr. NICOLLS pointed out that a difficulty would arise as to what should be done with the surplus shares.——The CHAIRMAN said if they had faith in the mine there was no reason why they should not let the shares remain as they were for the present.——It was decided to defer the further consideration of the question till the next meeting.

Messrs. J. C. Isaac, T. W. Greenfield, W. Mathews, E. Nicolls, and R. S. Seccombe were unanimously re elected committee of management.

As the mine has now got into efficient working order it was thought necessary to consider the question of agents' salaries, which up to this time have been merely nominal, and it was unanimously resolved to increase the salaries in accordance with the recommendations of the committee.

TIN HILL (LIMITED).

The statutory meeting of shareholders was held at the company's offices, 29, Threadneedle-street on March 10,

Mr. J. LAWRENCE in the chair.

The CHAIRMAN stated that this was the statutory meeting held under the provisions of the Companies' Acts, and that but a short time having elapsed since the formation of the Tin Hill Company (Limited) the business before the meeting was purely formal. He, however, had pleasure in telling the shareholders that the statements made in the prospectus were being verified more and more fully day by day, and that there was every reason for the proprietary to be congratulated on the acquisition of the property. He would now call upon the secretary to read the agent's report on the mine.

March 9.—Since taking possession of the mine in November last we have cleared foundations for the stamps, engine-house, stack loadings, smiths' shops, men's changing-house, saw-house and carpenters' shop; and the masons will complete the loadings of the engine-house this week. A great deal of the new machinery is on the road to the mine, and will be delivered in the course of a few days. We have a splendid quarry for building purposes, the stone being of a very superior character. We have also cleared the great caunter shaft, enlarged and timbered same to the size suitable for the engine shaft. This shaft is sunk so as to command the whole of the lodes at the best possible points. At the 5 fm. level a cross-cut has been driven and intersected the great caunter lode, which is 5 ft. wide, and calculated to be worth fully 100*l.* per fathom; some of which rich tinstuff we have now at the surface. We have also cleared and timbered Great Plexy shaft—Great Plexy lode at this shaft is 20 ft. wide, and estimated to be worth about 70*l.* per fathom. East shaft has been cleared and timbered to the 12 on No. 2 lode, which is over 3 ft. wide, and worth over 1 cwt. of tin to the ton of lode stuff. About 20 fms. to the east of this shaft we have sunk a shaft 10 fms. deep, called Air Shaft, for ventilation, and which has opened up an extensive run of tin ground. And from this shaft we have driven south and intersected the great Red lode, which is from 4 ft. to 10 ft. wide, and contains rich work for tin. In the quarry the lode is large, and contains rich tinstone not many feet below the surface; and from which we hope to procure a large quantity of rich stuff for the stamps. The pond is of great capacity, and will be a great advantage for the dressing of tin, as it will afford us an ample supply of water for that purpose. Operations at the bottom of the mine on the rich lode have been rather restricted of late, on account of the recent floods of rain; but as soon as we get the engine to work we shall immediately sink in the new engine-shaft, so as to follow down the rich course of tin at this point, and by which we hope to open up a most valuable and extensive run of tin ground. We shall also connect flat rods on to the east shaft, where we shall also sink with the greatest possible speed, as the lodes are also rich at this point. We have broken some hundreds of tons of rich tinstone; and our stopes on the great caunter lode, Plexy lode, Red lode, and No. 2 lode, are yielding good class tinstuff, from which we hope to get a full supply for the stamps, and to have a large heap at the surface by the time the stamps are ready to start working. We have been a little delayed in our operations with the severity of the weather, which is now modified, and we are pushing on with all points as fast as possible.

The CHAIRMAN then called upon the engineer of the mine, Mr. G. H. Eustice, of the firm of Messrs. Eustice and Son, Mining Engineers, Hayle, to give the meeting his views upon the position and prospects of the mine:—

Hayle, March 9, 1881.—Agreeably with your request I have inspected the Tin Hill Mine sett, situate in the parish of St. Stephen's, in the County of Cornwall. The sett, which is a very extensive one, is situated on the south-west slope of a granite hill, from which the mine takes its name, being more than half a mile long by nearly one half a mile wide, and contains several large and masterly tin-bearing lodes. The workings hitherto have been of a very limited character indeed, but even this limited extent of workings has proved the lodes to be unusually rich for such a shallow depth. The new engine shaft, which is near the junction of the Plexy and great caunter lodes, has been cleared up and secured. East shaft has also been cleared and timbered, and it has, I think, been wisely determined to place pit-work in both these shafts, worked by lines of flat rods from the engine. From samples of tin stuff I have taken and had carfully assayed from the lodes above referred to, as well as from others, all of which produce good-paying tinstuff, and some of a very rich nature. I think there can be no question to doubt that as soon as the engine is set to work, sufficient tinstuff can be raised to keep easily thirty-two heads of stamps continually at work; and if the present rich quality of the lodes is maintained in depth, and there is no reason to suppose the contrary, the directors may reasonably look forward to have a dividend-paying mine at no distant date. The building of the house for the new stamping and pumping engine has, owing to the severe weather recently met with, been greatly delayed, but is now being rapidly pushed forward with a full pare of masons. And as soon as it is ready to receive it, the engine and stamping machinery, which is now being forwarded to the mine, will immediately be erected. Large and substantial smiths' and carpenters' shops, suitable for the requirements of a large mine, have been erected.

Mr. BECKINGSALE, C.E., stated that last October he had been sufficiently fortunate to have the Tin Hill Mines brought before him, and that having made a most careful examination of the sett, he formed a very high opinion of it. This being the case, he had sought the advice of experts, and found that his views were confirmed. The various lodes opened on—not waiting discovery—opened upon, he would repeat, returned tin amounting to from ½ cwt. to 3½ cwts. per ton of tinstuff. With the knowledge that many of the leading tin mines of Cornwall had returned enormous profits on ores of far poorer quality, he was satisfied that in Tin Hill as it at present stood there was wealth in abundance, waiting for the shareholders to realise it. Directly the engine for pumping and stamping was in operation, returns would be made and the shareholders receive a tangible proof of the profit, of which the directors could now only speak in the future tense.

Mr. KNIGHT (director) stated that before joining the board he had visited the mine, and that, in his opinion, Tin Hill would have a good future before it, and that he had increased his holding in the property. Further, he might add that everything connected with the mine was conducted upon the most economical principles with efficiency and dispatch.

The CHAIRMAN then mentioned that since the taking over the property by the company about 700*l.* had been expended mainly in capital outlay, against which there was now at surface from 200*l.* to 300*l.* worth of tinstuff.

Mr. CORDERY asked as to the value of the lodes?——Mr. EUSTICE replied: An average of 1¼ cwt. of tin per ton of tinstuff, in some cases reaching 3½ cwts. per ton.

Mr. CORDERY: When will the machinery be ready?——Mr. EUSTICE: In about nine or ten weeks—positively at the end of May.

Mr. CORDERY: How many men at present employed?——The SECRETARY: Between 40 and 50.

Mr. CORDERY: How many points now opened upon producing tin?——The SECRETARY: Five stopes open, as reported by the agent in his reports.

Mr. COATES, F.G.S., then said that he had for many years been connected with mining, and that he considered Tin Hill a valuable property, judging from the appearance of the lode at surface—certainly it was the more remarkable outcrop of mineral he had ever seen, and looked as if it would continue in depth—he believed the shareholders would soon be amply repaid for their outlay, and he (Mr. Coates) might add that not only had Mr. Knight increased his holding, but that every director had done the same, which was a good guarantee of their opinion of the property.

Dr. BECKINGSALE asked whether the water charges were light or heavy?——Mr. EUSTICE (engineer): Light, and that the mine would not give more water than necessary for dressing purposes.

After some further discussion, and the usual vote of thanks, the meeting separated.

SOUTH CARADON MINING COMPANY.

At a general meeting of shareholders, held at the mine on March 15 (Mr. Richard Hawke in the chair), it was resolved that "the accounts for the 11, 12, and 13 months be allowed and passed, and that the balance of 1804*l.* 5s. 6d. be carried to the credit of next account;" and that "the best thanks of the meeting be presented to Mrs. Norris for her kindness in reducing the dues, as shown in the present abstract of accounts; and for the intimation, through Capt. J. S. Hawker, of further assisting the adventurers in this respect." The following report was read:—

March 15.—Since the last meeting we have intersected the lode at the 210 fm. level (Rule's shaft), which presents a very promising appearance, so much so that we have been led to purchase a boring machine to drive in this part with all possible dispatch (which will greatly increase the rate of driving), and where we hope to obtain profitable results. We have not yet intersected the lode at the deeper level in the eastern part, but are driving towards it, and hope it will be found productive. Our mine continues without any important feature to notice, on the whole, looking as it has for some considerable time past.—J. HOLMAN.

GREAT WESTERN COLLIERY COMPANY.

The annual general meeting of shareholders was held at Bristol on Tuesday,—Mr. SAMUEL LANG in the chair.

Mr. W. BRIGGS, the secretary, read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, said they had very good prospects during the first half of the year, but there had been a falling off in the latter part. To meet the wish of some of the shareholders the directors, although they considered three directors could manage the affairs of the company, recommended the addition of Messrs. C. H. James and T. Williams, J.P., both of Merthyr, to the board.

Mr. FORSTER BROWN seconded the motion, and in reply to a shareholder stated that the cost of the accident to the winding gear at the colliery would be about a 1000*l.*

Mr. S. W. KELLY considered the directors' report disappointing, especially after the expectations raised by the payment of the dividend on the A preference shares for the half-year ended December, 1879. The bad results are attributed to an accident at the colliery, arising from the overwinding; but surely it was not of such magnitude as to affect the whole year. The very large output—234,385 tons, an increase of 46,504 tons as compared with 1879—is a serious exhaustion of the property without making profit, also the wear and tear of the very costly appliances in daily use. It was really very difficult to realise how such very bad results could have attended the year, especially having regard to the advantages they had of a relative low royalty, also relatively low toll to the shipping port of Cardiff, being nearer to the port by from 9 to 10 miles than the collieries at the top of the Rhondda Valley. These relative great advantages have for some years past been held up prominently to the view of the shareholders on the part of the directors. And they are unquestionably immense advantages in depressed times especially. Then there is the almost singular advantage and profit of coke making, which is not enjoyed by the steam-coal collieries at the top of the Rhondda Valley. The Great Western Company's coals are conveniently adapted to this use, and the price of coke has been fairly satisfactory through the whole of the past year. The report gives no data from which to form an opinion as to whether the management is economical at the colliery, and whether the best prices obtainable are had for both coal and slack in the market. The directors' balance-sheet showed a credit balance of 107*l.* 4s. 6d., but his own analysis of the accounts showed a debit balance of 3836*l.* 1s. He understood that this extra creation of 20,000*l.* debentures was intended chiefly for building new coke ovens and providing new siding extensions. He regarded it as a misfortune to be obliged to put off the construction of the new ovens, because they are greatly needed, the old ones being so costly, inefficient, and wasteful. The want is so much felt that he thought it necessary that an expression of opinion should be elicited from the present meeting as to how to meet the difficulty of the want of additional capital. He enquired if the Chairman would be good enough to inform the meeting what are about the present selling prices of the coals, colliery screened, also double screened, and the price of coke likewise? Are any sales of coal made by this company at cost rate and insurance? If so, what proportion of our sales are so made? Those who understand the coal trade will readily appreciate the importance of the question; it may be mentioned that it is to secure the full profit rather than sell to third parties. It is a disagreeable fact, generally known to their great disadvantage at Cardiff, that their coals are sold to third parties. It is a notorious saying amongst third-party buyers at the port that "if you want cheap coals for bunkering or to help out a short cargo of other coals go to the Great Western Company's offices."

Mr. SOTHERN, mining engineer, Cardiff, bore testimony that the colliery was well managed in every respect, and told the shareholders that they might expect excellent results from its being opened up.

Mr. FORSTER BROWN, a director, said that the royalty was not so low as stated by Mr. Kelly. It was true that one royalty was 6d. per ton. That was, however, only for one taking, and there were other royalties which were very high; that brought the average royalty to 10d. per ton through and through.

The report and accounts were adopted; Mr. Laing, the retiring director, was re-elected; Mr. G. E. Swithenbank was appointed auditor; and it was resolved that the sum of 250*l.* be paid out of the funds of the company to Messrs. Brown and Adams, the chief viewers and agents of the company under the Mines' Regulation Act, as and by way of remuneration for their services during the year ending Dec. 31, 1880.

The usual votes of thanks terminated the proceedings.

VAN MINING COMPANY.

The following report of the directors will be presented to the shareholders at the general meeting, to be held at the mine, near Llanidloes, on Thursday, March 24:—

The directors beg to hand their report and statement of accounts, duly audited, for the year ended Dec. 31, 1880, and regret that the depressed state of the lead and blende markets, reported at the last meeting, continued throughout the entire year, and very seriously affected the profits of the concern.

Sales of lead ore, 2700 tons, at an average price of 12*l.* 0s. 5d....		£32,456 15 0
Sales of blende ore, 1525 tons, at an average price of £2 15s. 1½d.		4,203 15 0
Total		£36,660 10 0
Rents received for cottages	£145 10 9	
Received for interest	50 13 9=	196 4 6
Total		£36,856 14 6
The expenditore for labour, merchants' bills, royalty, rent, rates, income tax, and all other charges amount to		27,406 2 5
Leaving a profit of		£ 9,450 12 1

Two dividends have been declared and paid, amounting together to 9375*l.*, and the balance, 75*l.* 12s. 1d., is carried to reserve fund. This fund has also been credited with 13*l.* 6s. 6d., the final dividend from the estate of the Burry Port Smelting Company, and there is transferred to this account 732*l.* 4s. 3d. from the miners' fund. This amount is an accumulation of some years. The receipts and payments under that head have for the past year been settled monthly in the cost sheet. The reserve fund now stands at 4196*l.* 15s. 5d.

The manager will prepare a full report upon the mine for the information of the proprietors at the meeting.

The directors are not yet able to report any good discovery on the north lode, but the work is being prosecuted, and they hope that ere long they will be rewarded by finding a productive lode. The directors regret having to report the death of their colleague, Mr. Robert Oldrey. Mr. William Page retires from the direction by rotation, and is eligible for re-election. Mr. H. J. Whaley, the auditor, offers himself for re-election.

THE MONA MINES.

The report of the manager, prepared for presentation at the general meeting, on Tuesday, states that during the year the raisings were:—Copper ore, 2239 tons; bluestone, 1612 tons. The quantity of precipitate produced during the year was 165 tons 14 cwts., containing 20 tons 9 cwts. 3 qrs. 23 lbs. of fine copper, and of a market value of 1132*l.* 15s. 3d. The sales were:—Copper regulus, 7834*l.* 1s. 4d.; bluestone, 2702*l.* 14s. 2d.; ochre, 2443*l.* 0s. 6d.; pyrites, 97*l.* 3s. 4d.; copper ore, 470*l.* 4s. 5d.; solder, 54*l.* 5s. = 13,601*l.* 8s. 9d.

The returns of bluestone have latterly fallen off, but the decrease has arisen solely from the working away of ground formerly laid open, the dangerous nature of the rock in which the mineral occurs. The deeper and more extensive lateral operations we contemplate will in all probability prove the deposit to be of great magnitude. A cross-cut from Tiddy's shaft will not only penetrate this powerful lode at a greater depth, but lay open also the ground under old Tiddy shaft and Golden Venture shaft, which in former years proved highly profitable to the 20 fm. level, the deepest point reached in this part of the mine. The precipitate shows a very small amount as compared with the results obtained in this department during former years. The quantity being dependent in a great degree upon the extent of the underground operations, the decrease in the returns has inevitably followed the curtailment in the tribute and tutwork during recent years. The present more extensive scale of underground operations, and the further explorations projected, cannot fail to restore this source of profit to its former importance.

All the machinery at the mine and at the port is in efficient condition. The value of the stocks when the mine and smelting works were taken over by the company was 10,127*l.*, while a valuation made on Dec. 31, to every item of which he has given his personal attention, makes them 14,248*l.* Taking a comprehensive view of the whole concern, and judging from his past knowledge of it, and the present appearances, he has every faith in its proving a profitable and lasting mine. The accounts show the profit on the year's working to have been 4537*l.*, out of which a dividend of 4000*l.* (10s. per share) has been declared and paid.

THE PERRAN SILVER-LEAD CONSOLS (PERRANZABULOE).

March 17.—I herewith beg to hand you my report on this mine, and details of work done since we commenced working:—

Underground Department: The deep adit level has been cleared and secured with timber from the mouth on the beach to Hall's engine-shaft, a distance of 110 fathoms; we have had great difficulty with this, in consequence of the extensive heavy runs of ground which had taken place in the backs of this level for upwards of 50 fathoms in length, which have required a large quantity of timber, together with the 16-in. launders, &c., so as to carry the water, and to prevent the same from again interfering with the deeper workings of the mine. The engine-shaft has been collared up, ladder-road fixed from the surface to the adit level, a depth of 35 fathoms, cistern plat prepared to receive the cistern and bearers, and the shaft is now ready to receive the required pitwork, rods, &c., to that level, preparatory to going below as soon as the engine commences to work. Morcom's flat-rod shaft has been cleared and secured, ladder-road fixed from surface to the adit level 30 fathoms, and the shaft is in good repair to that depth.—Surface: The cylinder loading has been taken out of the engine-house and rebuilt, so as to receive the 60-inch cylinder engine, ground removed for balance-bob, and the required masonry is complete, together with stands for shears, the boiler-houses are cleaned out, and bottom flues built ready to receive the boilers, also the lobby from under the cistern, so as to enable us to clean the fame when required, and for other purposes; we have also made a large reservoir to retain all rain water from the river, and this will effect a great saving in time and money.

Carpentry: The carpenters have most of the heavy timber work prepared for the engine-house, such as spring beams, girders, with the necessary beams for the first and second floors, catrick cisterns, &c., &c. The 60 ft. shears is nearly complete for lifting; they have also been employed in making benches, saw-pit frame barrows, repairing the different houses, 70 fms. ladders for halls and Morcom's shaft, with other requirements.—Masonry: The masons have built the before-mentioned loadings for the 60 in. cylinder engine, bob-pit, stands for shears, together with two smith's hearths with stacks, removed wall under the plug door, and rebuilt the same, also lobby from under the cistern, and bottom flues for boilers, repaired roofs of account house, smith shop material, and other houses. In this department we are in a forward state.—Smith's Work: The smiths have been busily engaged in getting the required ironwork on for the engineer and other requirements, such as ironwork for shears, &c., making tools, bolts for underground purposes, &c., &c.—Engineering: The 60 in. cylinder pumping-engine is nearly all delivered on the mine, and the main beam, with wall plate and stools, are in their places with spring beams and girder. At this time the engineer is engaged in fixing the cylinder bed stones, after which the cylinder will be fixed in a day or two, when we shall rapidly get on with fixing the other parts of the engine, &c., &c.—Boiler Men: These men have completed the repairs of No. 1 boiler with new plates in the case, which took them 11 days, and at present are engaged on No. 2 boiler. This will require more extensive repairs in the bottom part of the case in consequence of its having been embedded in water for some time, which was quite unknown, but the tube is in good condition, which we found on its being withdrawn from the case. This work will be done quite in time and as fast as possible.

Staff: We have at present employed three smiths, two carpenters, two masons, with four labourers, one engineer with six labourers, two men screwing, two men with carpenters, two men and one boy sawing, and three men underground: total, 27 men and one boy. There are also four men engaged in taking abroad the balance-bobs, flat-rods, and loading the remaining part of the 60 in. cylinder-engine, boiler, &c., all of which have proved far above our expectation, and was a great bargain, but it must be borne in mind that the fearful weather that we have had to contend with has very considerably retarded our progress. Such a winter has not been experienced for a great number of years, rendering it impossible to get the heavy parts of the engine which was wanted first on the mine. I am pleased to say the weather is now very favourable, and we are making great progress, and if we can succeed in getting the required pitwork, &c., second-hand at once, we see no reason in getting the pumping-engine to work in the course of five or six weeks' time. And all being well, and the plunger lifts hold good which are now under water, why the water should not be drained to the bottom, 110 fm. level in about two months; and as soon as the levels are cleared we can send to surface fully 50 tons of silver-lead ore per month, as stated in my report. No time will be lost on my part to accomplish this.

THE COPPER TRADE.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, March 15).—Chili copper charters for the first half this month are advised as 550 tons fine all bars and ingots. The following figures show a noticeable decrease in charters and actual shipments from the West Coast—

	1881.	1880.	1879.	1878.
1st Jan. to date—charters ...Tons	5,800	12,400	9,200	10,500
Jan. to Feb.—shipments	4,400	8,866	7,902	7,756

Chili bar market has been very steady throughout the past fortnight, and fair sales have been transacted at 60*l.* 10s. to 62*l.* 9s. 6d. according to prompt and brand, quotation to-day being 61*l.* 5s. for good ordinary brands on the spot. In furnace material the sales comprise 30 tons Peruvian ore at 12s. 7½d. ex Iberia at Liverpool; 300 tons precipitate (Aljustrel) at 12s. 6d.; 75 tons Spanish (low produce) at 12s. 4½d.; and 72 tons Rio Tinto precipitate (leaf) at 12s. 9d. per unit, all at Swansea, and at to-day's sale by tender there 1382 tons ores, average produce 7⅛ per cent., realised 11s. 10d. per unit. Import of Chili copper during the past fortnight, 535 tons fine, against 4452 tons fine same time last year; delivery, 927 tons fine, against 1256 tons fine. Arrivals here during the fortnight of West Coast S.A. produce—Iberia, from Valparaiso, with 30 tons ores, 440 tons bars, and 95 tons ingots. At Swansea—*nil.* Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	—	19,206	205	—
Swansea	—	2367	11,967	—	—
Total	—	2367	31,173	205	—

Representing about 32,443 tons fine copper, against 32,835 tons Feb. 28; 33,109 tons March 15, 1880; 28,167 tons March 14, 1879; 17,503 tons March 15, 1878. Stock of copper contained in other foreign ore and Spanish precipitate, 2009 tons fine, against 731 tons March 15, 1880. Stock of Chili bars and ingots in Havre, 3981 tons fine, against 3584 tons March 15, 1880. Stock of Coro Coro barilla in Havre, 47 tons fine, against 102 tons March 15, 1880. Stock of copper other than Chili in Havre, 530 tons fine, against 150 tons March 15, 1880. Stock of Chili copper afloat and chartered for to date, 11,550 tons fine, against 19,000 tons March 15, 1880. Stock of foreign copper in London, chiefly Australian, 8367 tons fine, against 5163 tons March 15, 1880. According to the Board of Trade Returns the total imports and exports into and from this country for the first two months of the following years were—

IMPORTS.	1879.	1880.	1881.
Copper in ores ...Tons	1,753	2,256	1,573
Copper regulus and precipitate	3,662	3,907	3,930
Bars, cakes, and ingots	7,782	4,906	4,843
In pyrites (estimated)	2,158	2,567	2,057
Total	15,355	13,636	12,403
EXPORTS.			
English copper, wrought and unwrt..Tons	4,405	4,632	4,930
Foreign copper, unwrought	2,075	2,882	1,403
Yellow metal	1,934	2,541	2,528
Total	8,414	10,045	8,861

COPPER ORES.

Sampled March 2, and sold at Swansea, March 15.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce	Price.
Betts Cove	130	7½	£4 7 0	Betts Cove	100	8½	£4 16 0
ditto	130	7½	4 7 0	Berehaven	100	10½	6 6 0
ditto	130	7½	4 7 6	ditto	78	10½	6 6 0
ditto	130	7½	4 7 0	ditto	54	9¾	5 16 6
ditto	130	7½	4 7 0	Burnt Ore	101	2½	0 15 0
ditto	100	8½	4 13 0	ditto	99	2½	0 15 0
ditto	100	8¼	4 17 0				

TOTAL PRODUCE.

Betts Cove Ore	950	£4260 15 0	Burnt Ore	200	£ 150	0	0
Berehaven Ore	232	1425 19 0					

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	76½	£ 348 10 0
P. Grenfell and Sons	395½	1,959 14 0
Vivian and Sons	642½	2,262 14 0
Williams, Foster, and Co.	104	547 1 0
Mason and Elkington	33½	160 0 0
Landore Copper Company	130	568 15 0
Total	1382	£ 5,846 14 0

NO SALE March 29.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard
Whole sale ...	1382	7⅛	£4 4 7	11s. 10d.	£86 2 2

THE CHANNEL TUNNEL.—The works for the proposed tunnel from Dover to Calais have made such satisfactory progress that its promoters—Col. Beaumont, R.E., and Capt. English, R.E.—are now able to employ three shifts of men constantly throughout the 24 hours, and are sanguine of being able to bore about 30 ft. per day when all the machinery is perfected. At present two drills worked by engines driven by compressed air are at work, and about 30 labourers are employed. The bore is 7 ft. in diameter, and the soil chalk. It is so firm that the engineers are of opinion that no brick or cement work will be required to shore it up. Hitherto the difficulty they have had to contend with has arisen from the quantity of water which has found its way into the cutting, and which has been pumped up by means of a powerful engine placed at the mouth of the shaft leading into the tunnel. This shaft is about 300 ft. long, and the boring already accomplished upwards of 500 ft. A new shaft is being driven through Shakspeare Cliff, which, when completed, will be about 200 ft. in depth, and this will enable several hands to be employed and the work to progress much more rapidly than at present.

Registration of New Companies.

The following joint stock companies have been duly registered:—

THE STANDARD HOUSE PROPERTY COMPANY (Limited).—Capital 10,000*l.*, in shares of 5*l.* To purchase and sell land, buildings, and improve, manage, and develope same. The subscribers (who take one share each) are—A. Harland, Barnet; C. W. Stephens, 11, Hans-place; S. L. Grimes, 11, Abbey-gardens; C. W. Hastings, 22, Buckingham-street; G. A. Bickerton, 84, Lombard-street; M. Anyney, 10, Charles-street; H. H. Hardwick, New Malden.

THE ADAMANT DIAMOND MINING COMPANY (Limited).—Capital, 80,000*l.*, in shares of 10*l.* The acquisition from time to time, by purchase or otherwise, of any houses, lands, mines, mining claims, rights and privileges, works, diamonds, and other precious stones, coals, ore, machinery, plant, and other property in South Africa, and the carrying into effect an agreement made between J. Cowen and others, of the one part, and A. Moir, as trustee in relation to the purchasing of 36 land claims situate in the Bultfontein Mine, Griqualand West, together with all requisite plant, machinery, stores and effects, for the purpose of carrying on business operations in all branches. The subscribers (who take one share each) are—A. Dünkelsbühler, 97, Hatton-garden, diamond merchant; A. Cohen, 1, Hatton-garden, diamond merchant; J. Leverson, 29 and 30, Hatton-garden, diamond merchant; H. Rosenthal, 5, Copthall-buildings, merchant; G. F. S. Rosenthal, 5, Copthall-buildings, broker; W. Ford, 5, Copthall-buildings, buyer; W. Flick, 5, Copthall-buildings, book-keeper. The first directors are—Messrs. Dünkelsbühler, Leverson, H. Rosenthal, and C. J. Posno; the number not to be less than three or more than eight, and the qualification for office 50 shares.

THE BRISTOL DAIRY SCHOOL AND FARM ASSOCIATION (Limited).—Capital 100,000*l.*, in shares of 10*l.* To carry on the business of farmers, purveyors of milk, cream, butter, cheese, and all kinds of farm produce. The subscribers (who take one share each) are—R. N. F. Kingscote, 34, Charles-street; A. B. Kimball, 79, Queen's Gate; Sir E. Sullivan, 37, Palace Gate; F. Marshall, 9, Eaton-place; C. W. Wentworth-Fitzwilliam, Peterborough; G. Mallender, 31, St. Petersburgh-place; G. Fleming, St. John's.

THE INDIAN ZOEDONE COMPANY (Limited).—Capital 100,000*l.*, in shares of 1*l.* To manufacture for sale articles in connection with certain patents. The subscribers (who take one share each) are—A. F. Hoge, Woolwich; J. Ledger-Keating, 79, Sutherland-street; C. W. Turner, Wandsworth; A. T. Sullivan, 7, Dagmar-road; W. Dunn, Highbury New Park; J. D. Hodges, Finsbury Park; J. Tullock, Tufnell Park.

THE WASHINGTON HOTEL COMPANY (Limited).—Capital 12,000*l.*, in shares of 10*l.* To purchase an hotel and carry on an established business in Liverpool. The subscribers are—R. McDougall, Liverpool, 500; H. Vaughan, Liverpool, 1; G. H. Hyde, Southport, 1; J. Cosney, Liverpool, 1; G. Kirkland, Liverpool. 1; L. Connolly, Liverpool, 1; T. M. Williams, Armskirk, 500.

THE AUBE'S STEEL AND GAS COMPANY (Limited).—Capital 800,000*l.*, in shares of 20*l.* To apply certain patents to the manufacture of steel and gas, selling licenses, or dealing with the same. The subscribers (who take one share each) are—J. Nobel, Paris; F. Pégas, Paris; A. Rarion, Paris; C. Bennett, 40, Wingate-road; G. M. Henley, Sydenham; B. Gregory, 49, Cannon-street; H. Wheeler, 49, Cannon-street.

THE FIRST AVENUE HOTEL COMPANY (Limited).—Capital 85,000*l.*, in shares of 100*l.* The erection, maintenance, and working of a club-house, hotel, &c. The subscribers are—F. Gordon, 24, Bloomsbury-square, 100; J Pound, 81, Leadenhall-street, 5; W. Bailey, 105, Commercial-street, 5; F. C. Burnand, 64, Russell-square, 5; A. Johnston, 44, Finsbury Pavement, 5; H. L. Hammack, 59, Bishopsgate-street, 5; W. T. Holland, 14, Little Tower-street, 5.

THE WEST OF ENGLAND MANGANESE MINING COMPANY (Limited).—Capital 20,000*l.*, in shares of 1*l.* The purchasing or otherwise acquiring, working, and developing certain mining setts known as the Langstone, situate in the parish of Lamerton, Devon. To manufacture spiegeleisen, ferro-manganese, or any other metallic or semi-metallic substance, and to carry on the business of mining and trading in ores, metals, metallic minerals, clays, bricks, or other products derived from land or otherwise. The subscribers are—J. Lord, 35, Queen Victoria-street, accountant, 100; G. C. J. Holmes, 13, Sussex-place, C.E., 100; T. C. Gregory, 52, Queen Victoria-street, C.E., 100; A. E. Honeybourne, 131, Drummond-street, clerk, 1; D. McDougall, 35, Queen Victoria-street, accountant, 100; J. Milne, 27, Walbrook, merchant, 1; H. W. Saunders, 176, Downham-road, accountant.

GWYDYR AMALGAMATED MINES COMPANY (Limited).—Capital 70,000*l.*, in shares of 1*l.* To acquire by purchase or otherwise the business, property, assets, and liabilities of the following companies:—The D'Eresby Consols Mining Company (Limited), the Aberllyn Mining Company (Limited), and the Clementina Lead Mine Company (Limited). To work and develope all or any part of the mines and mineral properties from time to time acquired by the company, and to conduct generally the business of a mining and smelting company in all branches. The subscribers (who take one share each) are—R. A. Brown, 21, Great Tower-street, merchant; R. Spence, Beckenham, gentleman; H. J. Dean, Forest Hill, sharedealer; N. F. Watson, 1, St. Michael's-alley, sharedealer; J. Macfarlane, 1, Gresham Buildings, merchant; H. W. Lamb, Anerley, no occupation; F. Braby, Deptford, metal merchant.

GREAT WHEAL POLGOOTH (Limited).—Capital 100,000*l.*, in shares of 1*l.* To purchase or otherwise acquire lands, mines, and mineral properties, rights, and interests in Cornwall or elsewhere. To work, explore, develope, and maintain the mines, minerals, and other properties of the company, and to carry on the business of raising, working, mining, and selling of lead and other ores, metals, and minerals, and to smelt, manufacture, and render merchantable any ores, clays, or other substances. The subscribers (who take one share each) are—E. Ellerman, 85, Euston-road, clerk; C. Macpease, 31, Upper Tachbrook-street, clerk; C. Morgan, 2, Finsbury-square, gentleman; J. Widdicombe, 30, Cumberland-street, clerk; A. Ellerman, 85, Euston-road, gentleman; M. Beale, 37, Finchley-road, gentleman; J. W. Penson, St. Thomas-road, gentleman. No particulars given.

THE CITY AND COUNTY FINANCE COMPANY (Limited).—Capital 50,000*l.*, in shares of 10*l.* Lending money upon real, personal, and other security, discounting of bills, &c. The subscribers are—J. Allenby, Fairfield, 1; W. C. Hodkinson, Waterloo, 1; J. Kelsall, Waterloo, 1; D. A. Thompson, Liverpool, 20; F. Harper, Liverpool, 1; W. Ward, Liverpool, 10; W. Dixon, 11, Lord-street, 1.

THE BRITISH NORTH BORNEO PROVISIONAL ASSOCIATION (Limited).—Capital 300,000*l.*, in shares of 750*l.* To purhase from A. Dent his interests in territories, lands, and property situate in Borneo and islands lying near thereto. The subscribers (who take one share each) are: Sir. R. Alcock, 14, Great Queen-street; R. B. Martin, 68, Lombard-street; R. F. Turing, Chilgrove; R. C. Mayar, 101, Queen's-gate; W. H. M. Read, 25, Durham-terrace; A. Dent, 11, Old Broad-street; E. Dent, 11, Old Broad-street.

THE NATIONAL MODEL DWELLINGS COMPANY (Limited).—Capital 500,000*l.*, in shares of 1*l.* Providing healthy and comfortable dwellings, letting, selling, and otherwise disposing of the same. The subscribers are—J. S. B. Wellesley, Croydon, 500; J. Broomhall, Surbiton, 100; J. Dimsdale, 50, Cornhill, 100; A. Thompson, 38, Mincing-lane, 100; J. E. Rogers, Oxford, 100; J. Runtz, Lordship-road, 100; J. R. Pattison, 11, Queen Victoria-street, 100; W. W. Raynes, 32, Moorgate-street, 100; E. A. Hall, Surbiton, 100; J. Wright, 12, Cadogan-terrace, 100; S. Walker, St. Stephen's Chambers, 250; H. G. Wright, Adelaide Buildings, 500; L. B. Burns, 19, Walbrook, 100.

WEST WHEAL ROSE (Limited).—Capital 50,000*l.*, in shares of 1*l.* To adopt and carry into effect an agreemeet made between G. Beckingsale of the one part, and Jesse Smith on behalf of the company, and to purchase or otherwise acquire any lands or mines besides those mentioned in and acquired by the said agreement; also any mining plant, machinery, implements, chattels, and effects, and generally to carry on all operations connected with a mining company. The subscribers (who take one share each) are—T. Roughan, Upton Park, merchant; T. Pearce, Wanstead, merchant; H. O. Duncan, West Drayton, clerk; A. F. Pein, Kingston, dentist; J. S. Argent, Walworth-road, broker; H. Lambert, 110, Cannon-street, broker; H. Cordeny, Haverstock Hill, director of a company. No particulars given.

THE NATIONAL TELEPHONE COMPANY (Limited).—Capital 600,000*l.*, in shares of 10*l* and 5*l.* To carry into effect certain agreements, and to establish and conduct any system of telephonic communication. The subscribers are—R. K. Jackson, Preston, 50; C. J. Smith, Bradford, 50; C. L. Bell, Leeds, 1; W. A. Smith, Glasgow, 50; G. Buckley, 13, St. George's-terrace, 1; J. M. Ormes, 12, St. George's-terrace, 1; W. P. Bigelow, 133, Cromwell-road, 50.

THE CAERBRYN COLLIERY COMPANY (Limited.)—Capital 20,000*l.*, in shares of 10*l.* To acquire by purchase the Caerbryn Colliery, situated in Carmarthenshire, including the plant, machinery, and other effects; also an anthracite coal business belonging to Messrs. John R. Down and Co., of Swansea. To deal in, sell, and dispose of coal, coke, and other fuel, iron, and any other minerals or products of mining. The subscribars (who take two shares each) are—J. Davies, Carmarthen, surveyor; J. Lloyd, Pontyclere, colliery proprietor; D. Davies, Carmarthen, colliery proprietor; J. R. Down, Swansea, shipowner; A. W. Johnson, Swansea, agent; D. Treharne, Swansea, accountant. No Articles of Association have been registered.

JOHN J. ROLLINS AND COMPANY (Limited).—Capital 60,000*l.*, in shares of 20*l.* To carry on the general business of an American merchant at Old Swan Wharf. The subscribers (who take one share each) are—W. T. Ogden, 6A, Austinfriars; W. A. Rollins, Lewisham; G. A. Bainbridge, 95, Upper Tollington Park; F. S. Pilditch, Hammersmith; H. Abbott, Lewisham; F. Thompson, Anerley; J. G. Rollins, Old Swan Wharf.

THE COTTON BUYING COMPANY (Limited).—Capital 100,000*l.*, in shares of 5*l.* Buying and selling cotton, wool, and other fibrous substances. The subscribers (who take one share each) are—H. Schofield, Oldham; J. Preston, Oldham; G. Holden, Royton; G. Brierley, Oldham; J. Mills, Oldham; W. Marcroft, Oldham; J. T. Tetlow, Royton; T. Greenhalgh, Oldham.

THE GOODEVERE TIN MINING COMPANY.

The first thing that must strike one on reading this prospectus is the highly promising character of the district in which the company's property is situate. It is six miles from Liskeard, to the north of the celebrated Phœnix Mines, which had paid 180,000*l.* in dividends, and still continue prosperous, and it is also to the north of the Kit Hill range. A second feature in connection is the extensive grants which the company has acquired, comprising no less than one mile on the course of the lodes from east to west, and three-quarter of a mile in breadth. A third feature is the extremely moderale royalty, which will allow the profits in larger measure than usual to be divided among the shareholders.

As regards the mine itself, it is stated in the prospectus that the company does not take over a virgin piece of ground, of which they have to turn the first sod, but that they "take possession of a concern upon which a large amount of capital had been judiciously spent in development work." Indeed, the workings seem to have been carried on—one is almost tempted to say—for the exclusive benefit of the present company, for the simple reason that they were abandoned by the former workers at a period when, according to all reasonable expectation, a return might shortly have been expected from past outlay. The cause of this abandonment was not lack of faith in the mine, but lack of confidence in a revival in the price of tin. However, the former workers happening to leave the mine at a most inopportune time for themselves, have bequeathed to their present successors a property in a state so far developed that under the energetic management of the present company (at the head of which we are glad to see Mr. Alfred Thomas will ultimately be found) the day when it will enter the Dividend List cannot long be delayed.

The condition in which the property is taken over by the present company is fully set forth in the prospectus, which we publish in another column, but it is satisfactory to note that there will be an immense saving in future operations, because the sett can be worked by means of adit levels. Water-power will be amply sufficient for all the purposes of the mine, and of this there is an abundant supply. Thus this concern will avoid altogether that which is the cause of one-fourth the expense to most other mines—the coal merchant's bill; and need we add that it will also have all the advantages which must accrue to mining generally from the abolition of the dynamite monopoly. All the machinery necessary, we observe, can be erected for 2000*l.*, and it is calculated with only 30 heads of stamps a profit of 2860*l.* can be realised, which would be equal to 14 per cent. on the share capital of 20,000*l.* Of course as the stamps are increased in number and the price of tin advances the profits will be augmented accordingly. The reports of the four mining agents, which are published, are highly encouraging, the statement being based upon data which are reasonable, and are considered to be conclusive. There is one report which has not yet been seen—that of Capt. Simmon's, mineral agent to the Prince of Wales, which is of a very favourable nature, and which being private, can only be put at the disposal of intending investors. The directors are, no doubt, justified in thinking that a mine on the limited liability principle will just now meet a public want, and at least offer to investors an alternative to the Indian and other gold companies, which just now are absorbing so much attention. The names of the directors are sure to inspire confidence in mining circles, and the prospectus has been placed before the public in such a way that it ought to command, as it will doubtless receive, every attention at their hands.

ROCK DRILLING MACHINERY.

Although much excellent work has been done with rock drills, and a considerable amount of ingenuity has been displayed in their construction, it is very well known that they are still far from perfect. Some further improvements in that class in which the drilling bit is carried by a reciprocating piston, driven by steam or air, admitted to the cylinder by an oscillating distributing valve, whose motion is derived through the medium of the piston, are therefore proposed by Mr. F. J. Adams, of Lancaster-street, his object being to simplify the construction, reduce the weight and cost, and increase the durability of the machine. He casts on one side of the cylinder a recess, to which is fitted a cap; in the recess he casts three ports, one leading to the top side of the piston, one to the bottom side of the piston, and the other serving for the exhaust port. Into this recess, which is bored out true, he fits a bush, in which he cuts three ports to correspond with the ports in the recess. Into the bush he fits a valve, he cuts two ports for a portion of its length; on each end of such valve he fixes an arm or tappet contained within the cylinder, and fitting in a recess cast in the same. In the cylinder he fits a piston, which has both ends turned on a bevil (for operating the valve), and made with one end or rod to pass through a stuffing box, the said end to have a collar or clip with two screws, and he cuts the end with a ratchet tooth-shaped thread, and bores up that end of the piston which takes the drill, the said end to be cut through so as to give it a spring.

The body of the piston is bored up, and a nut fitted to it, into which a spirally cut rod is fitteed. The rod passes out at the back end of the cylinder, and on the end of the spiral he fits a ratchet wheel, having two pawls, so as to cause it to turn only in one direction. He makes one end of the valve to pass through the end of the recess, and through the back cover to the said end he fits a short lever with a pawl fitted to the same, which causes the feed nut on which he cuts a ratchet to turn on the feed screw on the motion of the piston between the said tappets in the cylinder. The pawl is forced against the teeth of the feed ratchet by means of an arrangement consisting of a small cylinder pivotted at its outer end, and containing a spiral spring pressing against a piston or rod, the outer end of which takes into a countersink in the pawl. An equivalent arrangement is provided for the pawls of the rotating ratchet. A cap is fitted over the back end of the machine, so as to enclose the parts. Means are provided for preventing the turning of the feed screw when the machine is in operation, so as to allow the nut to carry the machine forward.

THE MINERAL RESOURCES OF ALGERIA.

THE MARBLES OF KLEBER, AND THE IRON ORES OF BENI SAF

The capabilities of Algiers as a mineral producing country have frequently been referred to, and a few years since when Mr. Vallance's name was posted in the Guildhall, London (the Hotel de Ville of his native town), in order that the Algerian Government might be satisfied that he was a fit and proper person to receive a mining concession it was thought that something more would be heard of Anglo-Algerian enterprise; but hitherto this anticipation has not been realised. That there is a large field for enterprise is, however, beyond question, as a reference to Beni Saf iron ores and Kleber marbles will prove. The iron ore of Beni Saf has given rise to a most important industry, and has caused the construction of a harbour in a part of the coast where it was greatly needed. The French company to which the great iron mines of Ain Mokra, or Mokta-el-Hadid, near Bone, belong recently obtained from the State a concession of the very rich mineral basin of Beni Saf, 6 or 7 kiloms. west of the embouchure of the Tafna, and nearly opposite the Island of Rachgoun, south-west of Oran. In addition to this concession the company have obtained, by purchase, a large tract of country round about containing 9000 acres, so as to prevent competition or the establishment of colonists, not under their own absolute control. Here they constructed a port 500 metres long, by 360 ft. wide, by means of artificial breakwaters—one of which is prolonged to the west, so as to protect the entrance from the north-west winds, the only bad ones on this coast. It is completely sheltered from easterly winds by the land. The depth of water varies from 6 to 10 metres, but it is intended to dredge it to a minimum depth of 9 metres. The amount of magnetic iron ore here is immense, greater even than at Bone, and is worked to a great extent in open quarries close to the sea. It is not only very rich in iron, but it contains 2 per cent. of manganese.

The importance of the place may be judged of from the fact that during the first nine months of 1880 no less than 90 vessels, of which 55 were British, left the harbour laden with about 65,000 tons of ore. Of this 20,000 tons came to the United Kingdom and 40,000 tons went to the United States. The company has already passed contracts to supply 1000 tons of ore daily during 1881 and 1882. There is no town of any kind here; the population, which is about 2000, consists entirely of those occupied at the mines or on the harbour works. They are grouped about in huts without any order, and consist, to a great extent, of Spaniards and natives of Morocco. Everything belongs to the company; the land around is excellent for cultivation and colonisation, but nothing can be done in this respect without their sanction. The banks of the Tafna are easily susceptible of irrigation, and might be made to communicate with the new harbour by a road, and before long a tramway from Tlemçen will certainly terminate here or in the immediate neighbourhood. The harbour is to become an open one, and is to revert to the State in 1895, so it is probable that there is a considerable future for the country at no remote period. It is doubtful whether a town can spring up here under present circumstances, especially as neither the State nor the department has any control over the land of the company; perhaps the project, often broached, may some day be realised of connecting the Island of Rachgoun to the mainland by a causeway 1800 metres long, and making this the port of Tlemçen and of the country between it and the Tafna. A road is about to be constructed to join Beni Saf with Ain-Temouchen, on the high road between Oran and Tlemçen.

Turning to the marbles of Kleber, which are regarded as another source of wealth to the colony at present lying dormant, it is stated that about 34 kiloms. north-east of Oran, on the high road to Arzeu and Mostaganem is the small village of Mefessour; a branch road to the north-west leads (2 kiloms.) to the still smaller village of Kleber. Above this rises the imposing mountain called Djebel Orousse on the maps, a corruption, no doubt, of Djebel Er-Ross, "Mountain of the Capes," but generally called by the colonists "Montagne Grise," from its arid grey appearance. This chain of hills—the highest point of which is about 2000 ft. above the sea—stretches is a north-easterly direction, from Cape Aiguille on the west, to Cape Carbon on the east, and includes Cape Ferrat, nearer to the latter than the former. These have, no doubt, given the mountain its Arabic name. The central part of the range forms an elevated plateau, almost perfectly level, with a superficies of 1500 or 2000 acres; it has hardly any soil or vegetation—nothing, in fact, to hide from the most superficial observer that it is an uninterrupted mass of marble and breccia, the largest and the finest probably that the world contains.

Nowhere—not even in the Mosque of Cordova, which as regards marble columns is an epitome of all the finest Roman and Greek temples in the world—have I ever, says Mr. R. L. Playfair, in reporting upon them, seen marble of greater beauty and variety; and as to quantity he believes that there is as much in Algiers as in all France and Italy together, not excepting the mountains of Carrara. This is, indeed, none other than the celebrated Marmor Numidicum, so highly prized in ancient Rome. Its name implies that it was found in North Africa; but it is also misleading, and till the discovery of an Italian named del Monte we were tempted to search for it rather within the limits of the ancient Numidia than in this remote corner of Mauritania Setifensis. It seems that this del Monte belongs to a family which has for generations been employed in the extraction of marble at Carrara. Being without fortune he came in his youth to Algeria shortly after the conquest. He was fortunate enough to discover the well-known quarries of alabaster called "Algerian onyx" at Ain Tekbulet, near Tlemçen, equally celebrated in ancient and modern times. He purchased them from the Arabs for a mere trifle at a time when the country was still unsubdued, and when no one could approach them without danger to his life. This was the beginning of his fortune, and they have made the fortune of several subsequent owners. Onyx was largely employed in the beautiful Moorish architecture of Tlemçen, where the Numidian marble is never found. Evidently with quarries of the former at their door neither the Romans of Pomaria nor the Moors of Tlemçen were tempted to transport any other variety for the decoration of that important city, so many miles from the sea. But in making excavations at St. Leu—the Portus Magnus of Pliny—in the vicinity of Arzeu, some very fine mosaics of a totally different marble were discovered, which induced the Italian, who recognised their resemblance to many he had seen in Rome, to examine carefully the surrounding country, and eventually he discovered the place in question. The discovery was very much like the egg of Columbus; a child walking over the ground after a shower of rain could hardly had failed to make it. Yet some of the first geologists of the country had carefully examined it for iron ore, and had failed to realise the much greater value of every stone which they passed.

The area of the marble plateau is about 1500 or 2000 acres, and the concession of this for a long number of years has been obtained by Mr. Del Monte on favourable terms, and he has also obtained all the land round about in which there is any chance af marble being found (about 14,000 acres in all), so as to avoid the possibility of competition. The whole of this immense area is an uninterrupted mass of marble and breccia, which only requires to be detached and carried away; roads have been made by him in every direction, so that there is no practical difficulty in doing either. All over the surface of the elevated plateau may be seen circular depressions, marking the sites of Roman quarries, and these, to a great extent, indicate the position of the different varieties. The soil, where any exists, is of a deep red colour, containing small nodules of iron ore; mines of the same mineral exist in some places, and have been worked; but there is not a sufficient quantity of this mineral to make this remunerative. The ore has already served its purpose—a much more important one—by imparting an infinite variety of rich tints to the marble and breccia rocks. The distinct varieties met with are very numerous—giallo-antico of various shades (avorio, aragcio, canarino, chiaro ondato, pavonazzo, brecciato, and dorato); rose marbles, carnagione and brecciata; nearly a dozen varieties of breccias, as well as cippolino sanguigno, marmo bianco, diaspro calcario, and brano e nero antico. These occur in boundless profusion, and are capable of yielding monoliths of any size. A great number of blocks were

already extracted and squared, awaiting transport, amounting in quantity to about 250 cubic metres. The giallo antico, which appears to be the most common, is declared to be precisely similar to that of which the columns of the Pantheon at Rome are made, which is considered as proving that they came from this locality. Perhaps the most delicate and beautiful, as well as the most valuable, is a marble of an exquisite rose tint. This is capable of being used either in large masses or in the finest ornamentation. A breast-pin made from it could hardly be distinguished from pink coral, yet there are blocks from which the largest columns might be cut. With this is found a rich creamy white, and another variety pure white. The last is, of course, valueless. But it is in the breccias that we find the greatest variety of form and colour. They are, moreover, perfectly homogeneous, the pebbles and the cement which form the mass being of equal hardness, and taking an equally good polish; they leave no holes requiring to be filled up with artificial cement when worked. An attempt has, it is said, been made in France to form a company to purchase Mr. Del Monte's interest; but the price demanded is so exorbitant that profit to investors is practically impossible, although the marble is admittedly good, and capable of being cheaply worked. One block of breccia corallina, weighing 15 tons, without a flaw, has been quarried and squared for five years, yet the surface is quite unchanged by the action of the weather, and it was from the Kleber marbles that Mr. Cantini, of Marseilles, manufactured the articles forming the "Marbres Numidiques" trophy, which obtained him the gold metal at the last Paris Exhibition. The cost of the marbles in London would be from 8*l*. to 10*l*. per ton; but, unfortunately, giallos anticos and breccias are not in great favour, and have a very limited sale in England, so that any estimate based upon the cost of production and current nominal value must lead to disappointment until British taste materially alters. The metalliferous ores of Algiers, which will be hereafter referred to, are far more worthy of attention, and offer a fair field for enterprise.

GIGANTIC ENTERPRISES.

To say that this is an age of gigantic enterprises is to utter a commonplace, yet, like many commonplaces, it is accepted in the gross with complacency without much examination of its basis. But it is worth while to consider for a moment how truly descriptive the saying is. Our section of the world is just now moved with interest and pardonable pride in a number of huge sea-palaces which have been, or shortly will be, thrown open to public inspection and general wonder. Each one of these enormous vessels claims in its turn to be the largest vessel afloat except the Great Eastern; but its claim is immediately overturned by a still bigger specimen of the art of shipbuilding. Where the rivalry will stop it is impossible to say, and yet it is not too much to suggest that we have very nearly reached the point of minimum danger and maximum comfort in ocean transport. But these triumphs of marine engineering are as nothing in comparison with the several projects on foot on land for abolishing distance. Since the success of the Suez Canal there has been an insatiable craving for big engineering enterprises, which the financial lethargy of six or seven years somewhat quietened, but never quenched. The recovery from that lethargy has made the craving stronger than ever.

Foremost among these big schemes must be placed that of the Panama Canal, and that, to judge from latest reports is really on the way towards execution. Seventy experts have already gone to the Isthmus, where, we are told, 8000 men will soon be at work, and it is satisfactory to learn that political difficulties with the United States have been adjusted by M. de Lesseps. Next to this comes General Grant's Nicaragua Canal scheme, which M. de Lesseps call an impossibility; butthen General Grant takes very much the same view of the Panama scheme, so we must allow in both cases for the prejudices of promoters. It is within the limits of probability that both projects may be completed ere a new century dawns upon the world. These, however, are not the only efforts being made to link oceans in loving union. Lesseps has a project to pierce the Isthmus of Corinth, and Russia has a scheme for uniting the Caspian and the Aral Seas. And, indeed, next to Franco-American enterprises those of Russia seem to be among the most gigantic. Besides the Canal just mentioned she contemplates navigating steamers up the Amur-Darya to Tashkend, and cutting through the very heart of Central Asia by a railway from the Caspian Sea to the borders of China and the frontiers of Afghanistan, and the line already creeping along towards Merv may be regarded as the beginning of this grand scheme. The improbability of profit on the enormous capital required will not have the deterrent effect with Russia it would have with less despotic powers The single question will be, "Can it be done?" not "Will it pay?" and if the answer be in the affirmative, political jealousy and military avarice will give the order. Not less formidable in importance, although still only among the things talked of as possible, is the English scheme of the railway by the Euphrates Valley. It would not be hazarding too bold a prediction to say that our children may be able to go out to their Indian appointments all the way by rail. And not even forgetting the 21 miles of silver streak of sea which it is proposed to undermine, one may perhaps yet roll from London Bridge to Paris without moving from one's corner in a Pullman car. The tunnel through Mount Cenis falls into insignificance before this, and just so the marvellous advance in travelling thought to have been attained a few years back in the establishment of a through-carrlage from London to Inverness will be a subject of laughter when we have through-carriages from London to Calcutta! This is looking a long way ahead, but who can say the realisation is impossible when we see year by year the increasing strides of engineering daring? Shall not a succeeding generation see the Cook of their time issuing return-tickets for Timbuctoo per Central African Railway, with the option of returning *via* the Soudan? The project of transforming the Sahara into an inland sea has been apparently abandoned; but the French seem seriously bent on throwing a railway from Algiers into Central Africa. Before such schemes, the great American railroads, the Canadian Pacific line, and the projected ship railroad across the Isthmus of Tehuantepec in Mexico, gigantic as they are, seem positively small, and the plan of a railway across the Continent of Australia one as good as carried out.

And besides all those projects of super-gigantic import, there is hardly a country in the world which is not busy with extension of internal communication by rail, water, and telegraph. Even China, the exclusive, is engaged in the consideration of a system of railways to connect all the chief cities of the interior with Pekin. Great as have been the advances of the present century so far, those of the next decade will without doubt surpass all that has yet been attempted or even conceived. It would be a hopeless task to estimate the capital value of all the vast schemes actually begun, much less those only in embryo. That failures will attend some, and financial disaster many, may be taken for granted, but the happy posterity who have done so little for us will reap all the benefit. If, indeed, there be benefit, for closer communion of nation with nation has not as yet done much to hasten the beating of the sword into the ploughshare, or the conversion of the rifle into steel rails. The completion of even a tithe of the vast schemes *in posse* will doubtless add to man's comfort in various ways, but it is doubtful if they will add to his happiness, while assuredly they will increase the responsibilities of life. For the rest, one may wonder if there is really any need for so facilitating locomotion over the face of the earth when the telephone suggests the possibility of *viva voce* converse with the Antipodes, and the diaphote of bringing us visual acquaintance with the people and places of another hemisphere, without stirring from one's armchair.—*Glasgow Herald*.

LEAD MINING AS AN INVESTMENT.—Home lead mining still maintains its prominent position, although the reduced prices of ores has greatly decreased the profits; yet, taking all the British lead mines paying dividends last year, the average profit has been 13½ per cent. on the capital invested, whilst the value is 60 per cent. premium, and the capital has been repaid 460 per cent. Hence it is considered that had more capital been laid out in this class of investment at home we should hear fewer complaints of losses, for it is a well recognised fact that lead mines situated in a known metalliferous district, when managed with efficiency and economy, and having sufficient capital to open out the lodes in them cannot fail to be very profitable, and to bring lasting benefit to all concerned.

THE MINERAL WEALTH OF TURKEY.

Although every writer on the resources of Turkey agrees that the country teems with mineral wealth of various kinds, these are, says an official report recently issued, left almost undeveloped, except in the instance of some products which are elsewhere rare, but found abundantly and of great richness and purity in the Levant. The meerschaum from Eskishehir, in the district of Kutayah, still continues to hold its supremacy. In recent times emery stone and chromate of iron have been exported from Turkey in increasing quantities, and now the markets of the world are mainly dependent on this country for supplies of these minerals. Manganese ores, crystalline pyrolusite of remarkable richness and purity, have also been to some extent exported to Europe of late years.

How much may be done with a comparatively neglected mineral product is evidenced by the extensive business which has been established in boracite. Bi-borate of lime has become an article of considerate export from Panderma, in the Sea of Marmora, and the trade bids fair at no distant period to be one of great magnitude. This mineral is found near Yildiz, about 43 miles to the southward of Panderma. In 1868 a Frenchman obtained the concession of a quarry of gypsum, only 8 acres in extent, and from it he extracted annually from 3000 to 4000 tons of boracite, which he exported to France for many years as "plaster of Paris." The value of the boracite was 60*l*. per ton, while the cost did not amount to more than one-tenth of the value. Subsequently, the discovery of large deposits of borax in California caused a temporary fall in its value to 28*l*., but afterwards it rose to 40*l*., at which figure it stands at present. Meanwhile, it transpired that the so-called plaster of Paris from the quarry at Yildiz was boracite, and several persons commenced to prospect in the neighbourhood for boracite, with invariable success. It has been ascertained that this mineral occurs in nodules of large size in a stratum no less than 50 ft. thick in the lower part of a lacrustrine deposit of gypsum, 250 ft. thick, of the tertiary period. The area of the deposit is believed to be fully 20 square miles, and it is nearly surrounded by granitic, basaltic, and volcanic rocks. In three places in the area, basalt protrudes to the surface, and two mineral springs flow from the opposite edges of the basin. The boraciferous stratum comes in view in one place at the base of some high lands towards the central part of the area, and here it was that the first workings commenced 12 years ago, in the 8 acres of ground already mentioned, and during that period they are said to have yielded 1,500,000*l*. profit. From the large extent and thickness of the deposits, the supply of the boracite may be considered practically inexhaustible, and competent persons assume that the quantities existing here must be computed by millions of tons. The claim to almost the whole of these deposits of boracite is held by some Englishmen by right of discovery under Turkish law.

The very general opinion which is entertained that had the Glasgow Bank frauds remained undiscovered a little longer, the bankrupt house of Smith, Fleming, and Co., might have been able to satisfy their creditors out of the proceeds of selling Indian gold mine claims may be worth the consideration of those who are interested in the long outstanding Turkish debts, for Turkey may become as celebrated for gold mines as India. It may appear, writes Mr. Consul Wrench, a bold prediction to make that Turkey will at no distant period become noted for its gold mines, but as it was well known in ancient times as an auriferous region, there is some basis for belief in the possibility of its ancient reputation vevived in this respect. It appears that the principal mine prospectors in Turkey are Messrs. Calvert, who turned their attention to gold mines in the Levant many years ago, and now describe the country as one vast series of auriferous deposits. A selected sample of auriferous silver analysed by Messrs. Johnson and Sons, of London, gives—gold, 1·23; silver, 31·27; zinc, 9·80; lead, 1·10; copper, 0·50; oxide of iron, 12·40; sulphur, 13·00; carbonate of lime, 2·00; oxygen, &c., 3·50; silica, 25·20 = 100·00. These percentages represent 401¾ ozs. of gold, and about 10,215 ozs. of silver to the ton—that is to say, an ore worth about 3500*l*. per ton; and in other places ores of the same class, some of them associated with tellurium, have been met with worth from 2000*l*. to 6500*l*. Hitherto but one concession for an argentiferous gold mine has been granted, and Messrs. Calvert, as the discoverers, are the concessionnaires. This mine is situated near Serdjiller, about 12 miles from the Dardannelles, and it is, no doubt, that of Astyra, which the ancients said was worked by King Priam of Troy.

The Serdjiller gold mine, which has been visited by Mr. W. L. Stony, C.E., and Mr. Wrench, in company with Mr. Calvert, the concessionnaire, consists of a quartz reef from 40 to 60 ft. wide, projecting several feet above the surface like a wall for nearly ½ mile in length, and extending from the summit of a mountain of mica, shist, and syenite 1500 ft. high right down its side to the valley below. There are several ancient galleries in this reef; from the top of the reef near the summit Mr. Wrench struck off some pieces of quartz which, though not a particle of the precious metals was visible to the naked eye, on being assayed in London by Mr. F. Claudet, assayer to the Bank of England, proved to be of the remarkable richness of 8 ozs. 3 dwts. 10 grs. of gold per ton of ore. On the summit are the ruins called Kalé-Tath (Castle Stone), so called from a prehistoric fortress constructed of rough blocks of quartz. Another sample from this mine proved on assay by Messrs. Johnson and Sons to be still richer, for the yield was 43 ozs. 10 dwts. of gold per ton of ore. Other samples ranged from 1 oz. 13 dwts. down to 19 dwts. 10 grs. of gold per ton of ore, together with a nearly equal quantity of silver, and the reefs appears auriferous throughout. Mr. Stoney was much struck with the size and richness of the reef, and he attaches great value to this mine, not only on that account, but from the unusual facilities for working, as it can be commenced as an open quarry with a natural dainage, and an inclined plane for lowering the ore to the base of the hills, where water-power is available for crushing, and also from its proximity to a seaport, to which a good level road leads. The property is about 1000 acres in extent. The quartz reef cropping out at the surface is found to increase to 100 ft. in width in the ancient galleries. Besides this one, further exploration has resulted in establishing the fact that other quartz reefs converge towards Kalé-Tath, from different parts of the mountain.

It is highly desirable that the mining regulations of Turkey be revised, and the formalities simplified, for at present they are extremely vexatious, and open the door to corruption and abuses to the detriment of those who have honestly acquired mining rights. If mining claims and rights were as properly defined and placed on the same footing as all other rights of real property it would be a step in the righ direction; for in respect of real property original official title deeds are delivered without delay, whereas in the case of mining rights, pending the grant of a firman of concession—a tedious process lasting through several years—the only original official documents delivered consist of a prospecting license, and a receipt for the application for concession; neither of which is procurable until after many tedious formalities, and a long lapse of time, and which after all do not by any means constitute as satisfactory a security for the holder as the original official title deeds delivered for other descriptions of real property. The discoverer of a mine is often deprived of his rights by designing persons, and this because there is no provision in the mining law for the protection of his title by official certificate.

The coal fields of Heraclea, at the time of the Crimean war, attracted considerable attention, and many interesting articles on the subject were then published in the *Mining Journal*. The coal field has not been lost sight of, and since the summer of 1879 a party of capitalists and engineers, some of whom are creditors of the Turkish Government, have been seeking to turn to account these extensive coal fields belonging to the State. The mining engineers inspected the whole of the district, and found it rich in beds of coal. But, unfortunately, the Turks and Croats, who have hitherto worked the mines, have done so in the roughest and most primitive manner possible, without any scientific knowledge, so that most of their pits and galleries have fallen in or are flooded, and are useless to anyone undertaking the works. The short railway used for the conveyance of the coal to the depot at Heraclea has through neglect become almost unserviceable, and the last remaining locomotive has broken down and is useless. The workshops and plant belonging to the Imperial arsenal are also in a neglected and unserviceable condition. At one time there was a considerable number of pack and draught animals engaged in the transport of the coal, but for want of fodder most of them have been turned adrift to wander half-starved in the scrub on the hills. The forests in the neighbourhood of the coal fields, from which supplies of posts and scantling were procured for timbering the mines, have been suffered to go to rack and ruin by reckless cutting down and the ravages of fire, so that the requisite timber will have to be procured from greater distances inland. The roads, of course, share in the general neglect.

The working of the mines is at a complete standstill, and the Turkish and Croat colliers, together with the contractors for the working of the mines, are plunged into utter misery, as the Government owes them long arrears of wages, amounting, it is said, to 200,000*l*. Such is the result of the attempt of the Turkish Government to engage in industrial enterprise on its own account, competing with commercial and industrial undertakings. The impression formed by the mining engineers is that the coal fields may be worked remuneratively by a company, but that the preliminary outlay for repairing the mischief done, and renewing the plant, &c., will be very considerable. On account of the dangerous nature of the anchorage on that portion of the Black sea coast, the engineers advise that the Scutari-Ismidt railway line be extended by way of Adabazar to Bartin. In the interest of the people of the country, it is to be regretted that the Turkish Government does not perceive the impolicy of handing over to a monopolistic company, so to say, the whole of her coal fields, instead of distributing them in moderate-sized portions amongst a number of competitors. It is not doubted that if sound and liberal laws for the protection of alien miners were promulgated, the mineral resources of Turkey alone would soon relieve her of her financial embarrassment.

OOREGUM GOLD MINING COMPANY OF INDIA.—At an extraordinary general meeting of the shareholders, on Thursday, the special resolution passed at the previous meeting authorising a necessary alteration in the articles of association was confirmed.

GOLD PRODUCTION THROUGHOUT THE WORLD.—The recent report of Mr. Burchard, Director of the Mint in the United States, contains a valuable account of the production of gold and silver for 1879 and the two previous years. The total yields were:—

	Gold.	Value.	Silver.
1879	$105,365,697	.....	$81,037,220
1878	119,031,085	.....	87,351,497
1877	113,947,173	.....	81,040,665
Total	$338,343,955	.....	$249,429,282

Or a grand total for the three years of $587,773,337, or about 146,943,000*l*. The lion's share of this enormous production was from the United States, the yield of gold and silver in which during 1879 was nearly equal, being $38,899,858 of the former and $40,812,132 of the latter. Australia comes next with a production of $29,018,223, all in gold, and she is closely followed by Russia, which furnishes a tolerably uniform annual supply of about $27,000,000 of gold, though but a small quantity of silver. The Mexican yield is almost entirely silver, value $27,000,000. There has been a considerable falling off in the coinage of the world during 1879 from that of the previous years, the coinage of 1879 being in value $207,287,384, while in 1878 it was $349,578,524.

BRAZILIAN SALT.—The province of Rio Grande do Norte has an extensive seaboard, and extends between those of Ceara in the north and Pararba in the south, by which provinces it is entirely surrounded on the land sides, Natal or Rio Grande do Norte, which is the chief port of the province. Macao is a small place on the right bank of the River Piranhas, from this there is considerable export trade. Near Macao there are some very extensive salt pans. Consul Bonham, of Pernambuco, had the opportunity of visiting them whilst the steamer remained off that place, which is a short distance up the river. He was told that vessels drawing 10 ft. could cross the bar, but to complete cargo they generally anchor outside the mouth of the river. The pans he visited were about nine miles from Macao on the right bank of the river, the land adjoining which was quite flat for the whole distance, and is covered at high spring tides, and pools of water were visible in many places, with deposits of salt around the edges—the land could consequently also be utilised for saltpans. He was told that the land on the other side of the river is of a similar nature. The salt is taken down to the vessels in the river in canoes, and the price delivered on board is 500 reis (about 1s.) per alquière of 128 litros, or 317 lbs. This product is subject to an *ad valorem* export duty of 5 per cent.; if delivered in the roads the price is doubled, but small coasting boats or barcassas can go up and load close to the pans. He was told that the produce at present was about 150,000 alquières, say 21,000 tons, but there was not sufficient demand for the salt, the quantity of which could be immensely increased if there was a better market for it. At present it appears to go entirely to the southern ports of Brazil, Uruguay, and the Argentine Republic. There are also saltpans on the River Mossoro above that place, but he had no opportunity of viewing that river.

INCREASING THE TRACTIVE POWER OF VEHICLES.—A curious method of increasing power is suggested by Mr. P. MARQUIEN, of Lyons. The principle, he says, upon which he bases it is that the greater the number of points from which a movable object is drawn, such for example as a vehicle or boat, so in proportion will there be an increase in the drawing power without lessening speed, these several points of traction, be it understood, being so arranged that the whole are united by a single point of junction. The increase of force that an apparatus such as will be here described is capable of producing when applied to a vehicle drawn by a single horse of ordinary power is double—that is to say, if the horse draws a vehicle with a weight of 3000 kilogs. by the ordinary means, it will easily draw from 6000 kilogs. to 7000 kilogs. A series of flat metal plates is screwed to the vehicle, these plates being pierced with a number of holes. A row of eight semicircular wires are hooked into these holes; into these a row of four are hooked, the four in their turn being hooked into by two; and finally one semicircle connecting these two. The semicircles increase in thickness as the number decreases. It will be seen that each large semscircle pulls on 16 points of the plate, and as there are three sets there are 48 points of traction, all of which are pulled upon uniformly by the use of a flat metal connecting plate attached to the three large semicircles. This flat plate forms a central draught having its two extremities narrowed and bent in form of hooks, receiving in the centre a small thin plate of iron, also narrowed at the upper part and forming a hook. The principal plate also bears at its lower end an opening passing outside the plate, intended to receive a strong ring with two hooks connecting two parts of the apparatus, and receiving at the same time the cord or chain communicating with the horse collar. This plate forming a point of traction is one of the principal and most important parts of the construction, in that it receives the impulse of the tractive force, which it transmits by its three hooks to the three semicircles, and thence to all the others as far as those forming the drawing points.

RECEIVED MARCH 1, 1881.—I have recommended Dr. Locock's Pulmonic Wafers for many years, and have found them a most reliable medicine in cases of Asthma, Bronchitis, Coughs, &c. (Signed) J. J. PHILLIPS, M.P.S., Ryecroft, Ashton under-Lyne. They instantly relieve and rapidly cure Asthma, Consumption, Bronchitis, Coughs, Colds, Shortness of Breath, and taste pleasantly. Sold at 1s. 1½d. and 2s. 9d. per box.

HOLLOWAY'S PILLS AND OINTMENT.—The great variations of temperature, the fogs, and the foul vapours which permeate the atmosphere try the respiratory channels terribly; hence arises hoarseness, quinsies, loss of voice, bronchitis, and the whole train and endless variety of throat and chest affections which now prevail. Neglect of these in their early stages is almost criminal, as many a life may be saved through early and prompt treatment by means of Holloway's well-known remedies. This treatment can be readily and easily carried out, and soon disposes of the attack in a most satisfactory manner, by restoring the balance between the circulation and respiration, by lessening the inflammation, abating the febrile symptoms, and by soothing the irritability of the nerves

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. CLXX.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,
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GENERAL THEORY OF PISTON VENTILATORS.

In the case of small ventilators, used only for the ventilation of single drifts or shafts, the angle formed by the inner ends of the vanes with radii is 47°. The following are the dimensions of some of Rittinger's ventilators. Outside diameter 1 meter, inner diameter 0·6 meter. Water-guage depression 1·6 in., with 600 revolutions per minute, 5500 cubic feet drawn through the ventilator. Useful effect 52 per cent., power required to drive it 1·5-horse power. The ventilator is surrounded with a spirally shaped diffuser. The dimensions of some of the larger ventilators are 13 ft. outside diameter, 8 ft. inner diameter, 62 vanes, breadth of ventilator 16 in., power of engine 12-horse power, number of revolutions 80 to 100 per minute, amount of air passed through the ventilator 24,000 cubic feet per minute.

The following is a detailed description of a Rittinger's ventilator for about 20,000 cubic feet per minute. The fan consists of a cast-iron disc, which rises trumpet shaped on the inner side at the centre, and on the outer side is provided with a central boss, from which several ribs radiate. This central boss is bored out, and fits on the axle of the ventilator. The trumpet shape of the inner side of the disc gradually changes the axial direction of the air entering the fan into a radial direction. The vanes are enclosed between two annular rings of sheet-iron, one of which is rivetted to the cast-iron disc. The vanes themselves consist of sheet-iron, which is bent to the curve required, and are riveted either directly or by means of angle-iroh to the two annular discs. The ventilator draws in air from a bricked culvert, which opens into the fan opposite the cast-iron disc, either directly or by means of a short iron tube, so shaped that there is no abrubt change in the section of the air-way from the upcast shaft to the ventilator. It is important that the iron tube shall fit close against the revolving annular ring of the ventilator, to prevent air from the outside being drawn into the ventilator at this point. The bearings of the axle are made longer than is usual, and the outside of the brasses and their seats in the plummer block are made spherical, so as to facilitate the fitting up of the axle. The plummer blocks and bed plate are cast in one piece, since the ventilator is carried at one end of the axle. The axle can be moved longitudinally in its bearings, and it can be adjusted to bear air tight, and with but very little pressure, against the entrance tube, by means of a spring attached to one of the plummer blocks. The spring may be also necessary for the purpose of counteracting the excess of outside over the inside pressure of the air on the cast iron disc. The diffuser consists generally of two parallel square wooden walls, with central openings corresponding to the outside diameter of the ventilator. The walls of the diffuser are formed of wooden planks, fastened to stout vertical bars, the bars being on the outside of the diffuser. The air thus escapes all round from the ventilator, between two parallel wooden walls,

In the example here given it has been shown that a diffuser circular in shape for a Rittinger's ventilator, 6 ft. outside diameter, must be 17 ft. 6 ins. in diameter, or if square in shape of 17 ft. 6 ins. length of side. If the outside diameter of the ventilator is taken at 7 ft. the diameter of a circular open diffuser, according to the above calculations, would have to be 40 ft. The tendency of modern practice is, however, to the use of centrifugal ventilators, with very large diameters, 40 to 50 ft.; and in the case of Rittinger's ventilators of such diameters the diffuser would be inconveniently large, so that for larger diameters the ventilator is usually surrounded by a closed diffuser. The principle adopted in the construction of closed diffusers surrounding Rittingers ventilator is that the air on entering the vertical outlet, or shaft, of the diffuser shall do so with the same velocity as it leaves the ventilator. In other words, the section of the shaft of the diffuser at its lower end must be equal to the amount of air passed through the ventilator, divided by the velocity with which the air leaves the fan (which it does tangentially). Also that the section taken between the outside of the diffuser and the outside of the ventilator at any point shall be such that the velocity of the air passing passing through the section shall be equal to the tangential velocity of the air leaving the fan. In accordance with these requirements the shape of the inner surface of the diffuser must be that of an archimedian spiral. A very simple mode of describing the curve of the diffuser round a Rittinger's ventilator is given by Von Hauer, which supposes, as above, that the width of the diffuser and shaft are the same as that of the ventilator. A square is described around the centre of the ventilator, the side of which is equal to one-fourth the length of the shaft of the diffuser at its lower end. From each corner of the square quadrants are drawn, so as to form a continuous curve.

In order to reduce the velocity of the air at the upper end of the shaft to that found (as stated above) most suitable, the shaft must be gradually enlarged in section to the outlet at the top; the size of which is readily obtained by dividing the amount of air by the above velocity.

In the case of a Rittinger's ventilator, 7 ft. diameter, with a closed diffuser, the section of the shaft of the diffuser at the lower end will be 6 ft. 4 in. by 10 in. The latter demension is the width of the ventilator. This gives 5·2 square feet as the section of the lower end of the diffuser shaft. To reduce the velocity of exit to 18 ft. per second the section of the upper end or outlet of the shaft must be enlarged to 16·78 square feet. If the length of the diffuser is kept constant (6 ft. 4 in.) the breadth will gradually increase from 10 in. to 31 in. The employment of a closed diffuser in this case increases the size of the ventilator to about 15 ft. in diameter, whilst if an open diffuser were used the size, as we have seen, would be increased to 40 ft. No general rule is given for the height of the diffuser shaft, but it should not be short, as with a sudden change of velocity there is a lose of power. The height should be greater the greater the velocity, and the greater the difference between the section at the upper and the lower end. In the above case the height of the diffuser shaft may be taken as 16 ft.

The useful effect of Rittinger's ventilator is put down at from 25 to 30 per cent. That of Guibal is often given as from 30 to 60 per cent. Since the construction of the two ventilators is very similar, there is probably a difference, if not error, in the mode of calculation by which the higher percentages in the case of Guibal's ventilator have been obtained, and the circular form of the diffuser in the case of the latter appears to be disadvantageous.

The diffuser, as we have seen in the case of Rittinger's Ventilator, ventilator, becomes excessive in size when constructed for large ventilators. The size of the diffuser might be reduced if the sides were made to diverge outwards, which would, however, be a somewhat inconvenient shape in practice. We have already pointed out that the diffuser usually attached to Guibal's ventilator ought properly to surround the ventilator, and hence to be circular in shape. It would then be exactly the same as the diffuser of Rittinger's ventilator. The difficulty of the large size of circular diffusers might be avoided by providing the diffuser with guide blades, which should gradually change the oblique direction of the air thrown off from the ventilator to a radial direction. The guide blades should form arcs of circles, in such a position that the tangent to the curve of the blade at the point whese it cuts the outer circumference of the diffuser is radial to the diffuser (also to the ventilator); and the tangent to the curve of the blade where it cuts the inner circumference of the diffuser coincides with the direction in which the air is thrown off from the ventilator.

The following rule for constructing the curved blades of a ventilator, and which also applies to the construction of the blades of a circular diffuser, is important, and will be found useful:—"From the point of intersection of the curve of the blade with the inner circumference of the diffuser draw a straight line at the same inclination to the circumference as the inner end of the blade. From same point draw a second line at right angles to the first. Make the first line equal in length to the larger radius of the ventilator, and bisect it. Draw a perpendicular to the line from the point of bisection, and produce it till it intersects the second line. The point of intersection is the centre from which the arc formed by the blade is described.

SCREW VENTILATORS.—Air can be propelled in an analogous manner to that by which a ship, or the water from the stern of a ship, is propelled by means of a screw. If we suppose the screw to be inclosed in a cylinder, and rapidly rotated, air or water may be drawn in at that side on which the blades form an obtuse angle with the direction of rotation, and the air or water will be driven out on that side on which the blades of the screw form an acute angle with the direction of rotation. The action of such ventilators is exactly the reverse to that of a windmill. In the case of screw ventilators it will always be necessary to surround the ventilator with a cylindrical casing. In consequence of the rotation of the ventilator the air will not only be driven forward parallel to the axis of the ventilator, but will also have a rotatory motion imparted to it. Hence the air in passing through the screw ventilator will tend to crowd to the outer circumference of the ventilator, and will be compressed, whilst that near the axis will be rendered less dense. If the inner diameter of the screw ventilator is small compared with the outer diameter, the difference in pressure of the air near the outer circumference and in the neighbourhood of the axis will be so great that a back current of air will be created near the axis. On this account screw ventilators should not have the inner diameter small compared with the outer diameter; and this is probably the reason why the useful effects of some of the earlier screw ventilators is so small.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz North Germany.

HYDRAULIC MINING IN EL DORADO COUNTY—No. IV.

By ALEX. DEL MAR, M.E., U.S. Monetary Commission, &c.

The cuttings into this hill consist of a large hydraulic opening at the east end, with sluice, bed-rock tunnel, and under currents, emptying into a ravine 600 ft. deep; and a small opening and extensive drifting works at the west end. The east end opening is out of grade from the edge of the rim rock to the face of the bank. The ground plan of this opening is bow-shaped, and measures, when following the bow, over 1300 ft., and when following the string over 500 feet. The pit is nearly filled with large boulders, in the midst of which stands a large derrick, constructed on an improved plan, and worked by water-power. This derrick was employed to remove the heavy boulders from the gravel bank, and stack them where they are now.

Water was brought to this opening from Park Creek ditch by a pipe laid over the top of the hill. A portion of the ditch water was turned into a small reservoir on top of the hill, and thence allowed to fall over the edge of the hydraulic bank, to loosen the gravel. The whole quantity of water employed was 1600 in., with a pressure from bulkhead to bed-rock of about 100 feet. The bed-rock is of schist and slate, the latter hard, and difficult to blast.

The debris was piped into a wooden sluice, 4 by 2½ ft., that leads through a tunnel, 6 by 5 ft., cut through the slate rim-rock for a distance of several hundred feet. At this point the tunnel becomes an open cut, still lined with the wooden sluice, and it continues to the ravine, which constitutes the dump.

It is evident that this mine was abandoned, on one account, because the bed-rock sloped out of grade, and the debris could not be washed through the tunnel any longer. To cut a new rim-rock tunnel 100 ft. lower (vertically) would involve an expense of some $25,000 to $30,000—for it would have to be 1000 to 1200 ft. long, and would cost some $25 a foot. The former proprietors, having probably with the usual improvidence of miners divided and expended their profits while the mine was productive, were without the means when it lost grade to construct a new tunnel. So they abandoned the work.

Mr. Crawford appeared to regard this mine as the least valuable portion of the company's possessions. If the gravel went as high as is stated—and from the appearance of the opening and the history of the vicinity I have no reason to doubt the statement—I must respectfully differ with him as to the value of the mine. I believe I could suggest a mechanical device which, without incurring the expense of a new rim-rock tunnel, would entirely obviate the difficulty encountered, and render this mine immediately productive again.

Beside the pipes, derrick, sluices, and other accessories mentioned this mine is provided with two undercurrents and other appurtenances and materials for mining; also, a boarding-house, barn, and other needful structures.

The south-west side of the hill that slopes toward Dry Gulch ravine was prospected on the surface and along the ravine so early as 1849 or 1850. In 1852 these placers were so productive that the miners could afford to pay $1·50 an inch for water. [At that time an inch of water was reckoned equivalent to 17 gallons a minute—more than half as much again as now.] In 1854 the price of water, which was obtained from the same ditch that now supplies the neighbourhood, was $1 per inch. In that year Mr. Davenport, with a 1½ in. nozzle, took $2600 out of a 15 ft. claim in this ravine. After the miners had exhausted the placers they drifted into the hill beneath its lava capping, and took out a great deal of gold. This information was derived from Mr. Davenport, who accompanied Mr. Crawford and myself during the survey of this property.

After viewing the old placers I examined the drifts for a distance of about 100 feet. They are said to extend 400 feet. The timbers are in fair order. Nothing more was to be seen, as the auriferous gravel had been extracted. In the tunnel which leads to the drifts is a dilapidated tramway, and outside the mouth of the tunnel a dump-house and wooden sluice. From the dump-house to Dry Gulch the grade is very slight (say) 20 to 30 ft. fall, and to attack the hill from this point as an hydraulic enterprise would involve the expense of a rock tunnel to Clear Creek—a distance of 1½ mile. At this point there would be an ample fall of 350 feet.

After the hill had been drifted a portion of it, including some of the drift works, was piped away; but it is evident that this enterprise was subsequently abandoned, partly on account of loss of grade and lack of a rock tunnel to Clear Creek. I had no means of determining whether the gold which had been drifted for at this end of Dry Gulch was found in the gravel or bed-rock. The latter is of grey slate, much fractured near the surface. On the whole, this side of the hill is a network of dilapidations, with no attractive showing either in gravel or bed-rock.

The south-west portion of the property rises into a gravel hill capped with lava. Experiments made to work it gave discouraging results, and it was abandoned.

BEAN HILL.—This claim has not been worked for some 15 years or more, except in some parts, and on a small scale. The claim consists of 60 acres, of which 30 acres are claimed as mining ground. Of these some 10 acres have already been piped away. This hill was first worked as a hand placer about the year 1853, and the surface is still gridironed with the short ditches, 2 ft. wide and deep, and 6 ft apart, which under the old mining law sufficed to hold the ground until the coming rainy season. At that time the surface of the hill was bare; now it is covered with young pines, and a thick undergrowth of chapparal. This phenomenon of former baldness and subsequent first growth is to be observed with reference to all the hills in the vicinity. Some old settlers deny the baldness of the hills, and contend that they usually had a spare growth of large timber. The small timber and undergrowth were swept away every two years or so by Indian fires.

The cuttings on Bean Hill consist of a small opening on the south side, a large horseshoe-shaped opening on the east side and a similar one on the west side, the fore part of each horseshoe almost touching, so that there is little more than room enough to walk on top of the ridge that separates them. All of these openings are out of grade. It was asserted, however, that the hill could be advantageously attacked with the aid of a rim-rock tunnel on the north side, with a good dump into Weaver Creek. This side of the hill was not shown to me, nor were its availabilities alluded to until after the property had been examined. The south opening has a face some 250 ft. long, and 50 ft. high; also an annexe, 100 by 20 feet. The east and west faces are probably each 1500 ft. long by 75 ft. high.

The gravel is of the same general character as that at Tennessee Hill, and, judging from the neatness and regularity with which the boulders and larger pebbles are stacked up in the south and east pits, these were last worked by Chinamen. Although I was informed that from the west opening a certain "Doc. Adams, of the San Francisco Mint," took $40,000 the remaining gravel seemed poor, and for this reason I did not deem it necessary to pan any of it. The last work done here was evidently not piping, but sluicing, as the last ditch employed (one on Diamond Hill) could give no pressure of water. This ditch is now dry, and has been so for three years. It barely brought the water to the foot of the south and east faces where the sluicing was done. A considerable quantity of 8-in. pipe lay on the ground, where it was being offered for sale at 20 c. per foot. To deliver water here with a sufficient pressure for piping would involve the expense of reconstructing ditches, and of laying 9000 ft. of pipe from Baker Hill, around which winds a portion of the compuny's high level ditches. From this level the pressure at bed-rock of the Bean Hill opening would be about 300 feet. The bed-rock consists on the surface of decomposed friable granite.

RECAPITULATION AS TO HYDRAULIC MINES.—Apart from the question of water supply I must regard Missouri Hill and Bean Hill as, on the whole, undesirable mining enterprises. With the aid of the mechanical device alluded to the east opening at Dry Gulch may be made productive. On Tennessee Hill the gravel, except at the first or northern opening, is poor, and even at that opening it is hardly rich enough to sustain the heavy expenses of opening and working it.

With regard to water supply it is evident that without the construction of new receiving reservoirs the company will not be able to deliver a sufficient quantity of water at either of these works, except during the rainy season, to ensure their continuance. To attempt to do so would deprive the company of the water which it now sells with advantage to quartz miners, farmers, and others—the continuance of whose industrial enterprises depends upon the arrangements which they have made to receive it regularly. On the other hand, if the reservoirs were constructed a portion of the winter's extra supply of water would have to be turned into these—so that unless this extra supply were very great the company could hardly undertake with advantage to run the hydraulic claims on its own account. In a word, it can sell all the water which it can contract to supply regularly throughout the year, and sell it to better advantage than to itself employ it on these hydraulic claims. And as to the water which it cannot supply regularly thera is not enough of it now, and there would probably not be enough of it under any circumstances to induce a prudent miner to go to the expense of fitting up these mines with the view of working them.

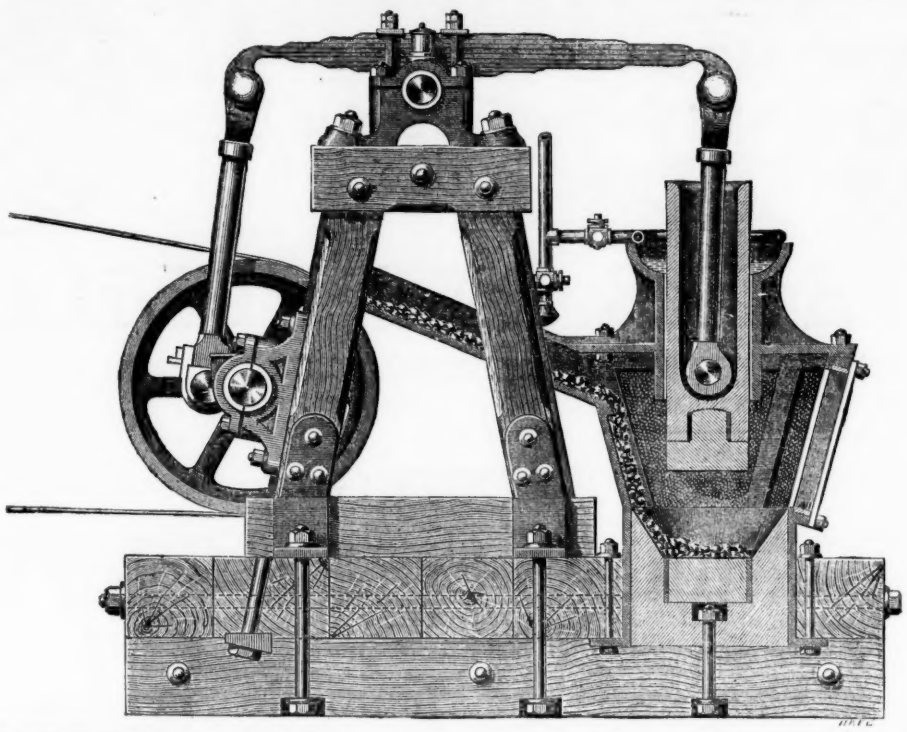
I am strongly of opinion that the company's best policy is that one which has been pursued by the present superintendent, and this is to manage the water company as a water company only, and not to engage in mining.

My mission to Placerville was not to form an opinion with regard to the resources and prospects of the water company as a water company, but was exclusively confined to the water company as related to the hydraulic mines and the prospect of working the latter as a source of profit. Hence my observations were chiefly confined to this relation and prospect, and on these subjects I am able to come to a decided opinion. As already indicated this opinion is adverse to cultivating or continuing the relation, and unfavourable to the prospect.

GOLD AND SILVER.—Mr. G. Philips Bevan, F.G.S., F.S.S., delivered a lecture, on Monday, at the London Institution, on the "Gold and Silver Mines of the World." It was replete with interesting facts and figures. Speaking of the early discoveries in the colony of Victoria, he cited Mr. Brough Smyth for the facts that three diggers at Forest Creek obtained in 19 days 360 ozs. of gold; a party of five cleared 2½ lbs. in a single day; another of four got 11 ozs. from sunrise till 3 p.m.; while another of three obtained 1000 in 14 days. The same authority mentioned that at Ballarat, the head-quarters of the deep mining district in that colony, a party of six got 1344 ozs. of gold for ten weeks' work, while in four months another gang earned 24,000*l.* The winnings of 42 Ballarat companies up to the date of Mr. Smyth's writing were no less than 4,305,463*l.*, one of them—the Band of Hope—having washed 14,975 ozs. in 44 working days. Of colossal nuggets the lecturer mentioned the Welcome Stranger, weighing 2280 ozs., 21 in. long and 10 in thick, a lump of solid gold found by the merest chance, yet worth 9534*l.*; the Welcome Nugget, which weighed 2217*l.*, and was sold for 10,000*l.*; the Blanche Barkley, 1743 ozs. in weight, and old for 6905*l.*; the Heron, weighing 1008 ozs., which fetched 4080*l.* The Victoria gold fields now covered an area of 1241 square miles, which in 1879 yielded 715,000 ozs., valued at 3,000,000*l.* Queensland was traversed by a chain of gold rocks from north to south, and at least 4000 square miles were being worked with all the experience gained from the failures of the sister colony. The yield for 1879 was over a million sterling. South Australia was more a copper than a gold country, but the gold fields of Port Darwin were being industriously worked by the Chinese. After mentioning South Australia and New Zealand, the present rage for speculation in Indian gold mines was touched on, with a due caution to perplexed investors. The Russian Mines in the Ural range were interesting, both as having been probably referred to by Herodotus and as having enabled Murchison to forecast the success of gold mining at the Antipodes. Passing over to the American continent, the lecturer spoke of the gold fields of North Carolina and Virginia, the California discoveries, and the rich silver mines of Nevada and New Mexico. He gave an elaborate description of the great Comstock lode, the two mines of which had yielded in 20 years $363,671,605. He spoke further of the immense wealth of the Arizona and Colorado silver mines, as well as of the Bolivian mine long known by the name Potosi, and of those worked in Peru, Chili, and Mexico. The European mines were the last to pass in review. It had been computed, Mr. Bevan said, that the grand total of gold produced during the historic ages was 3,517,093,500*l.* and that of silver 2,826,250,000*l.*, making for both the precious metals together no less than 6,343,343,500*l.*

THE BEAUMONT AIR-ENGINE.—Some trials have recently been made wih the Beaumont compressed-air locomotive on the Metropolitan Railway in order to test the applicability of the system to the requirements of underground railway working. These trials were conducted under the superintendence of Mr. Tomlinson, the chief engineer of the line, and so far they have been attended with satisfactory results. Owing to the necessity of avoiding any interference with the ordinary working of the line the runs had to be made after the daily traffic had ceased. The Beaumont air-engine consists of a reservoir, in which compressed air is stored under an initial pressure of 1000 lbs. per square inch. The air when used is expanded successively in three driving cylinders of increasing diameters, and escapes noiselessly into the atmosphere after use. The external application of heat to some of the working parts of the engine warms the air, and effectually prevents the condensation and freezing incidental to the expansion of highly compressed air. In the recent trials a carriage was coupled on to the engine, and they started from the Edgware-road station and ran to South Kensington and back. They then ran to the the Queen's-road, Bayswater, and back, the total distance travelled being about 10½ miles. The engine weighs about 8 tons, and the total weight drawn was about 20 tons, train time being kept throughout. The engine started with an initial pressure of 1000 lbs. per square inch in the reservoir, and when finally stopped the gauge showed that there was still a pressure of 400 lbs. per square inch in the reservoir, so that only three-fifths of the supply of air had been exhausted. The advantages of using compressed air instead of steam on an underground railway are obvious, provided it can be successfully applied. It would not only do away with the close and unwholesome atmosphere through which passengers have to pass, and in which the officials have daily to live, but would tend to the preservation of the structural ironwork, the durability of which is seriously affected by the noxious vapours from the ordinary locomotives.

THE RECOIL PROSPECTING STAMPER.



THE RECOIL PROSPECTING STAMPER.

The pneumatic stamping machine invented by Mr. Charles Sholl has been frequently referred to and described in the *Mining Journal*, and the same gentleman is now introducing an extremely simple recoil stamp, which is represented in the above engraving. The manufacturers—Messrs. Brinjes and Goodwin, of the Whitechapel Engine Works—make prospecting machines on this principle, which are constructed with no part weighing more than 1 cwt., and which, it is claimed, are capable of reducing from 2 to 4 tons of auriferous quartz in a working day of 10 hours, and driven by horse or mule power. Although the general design of the stamp appears retrogressive it is found in practice to be just the reverse of this, a large amount of work being done, and considerable economy effected. It will be seen that the main features of the invention are the flexible beam, which is built up of a series of flat steel plates, and what may be called a trunk-engine stamp. Whilst there is sufficient rigidity to prevent any undue play, the elasticity reduces the wear and tear to the minimum, and secures results which give general satisfaction.

FOREIGN MINING AND METALLURGY.

The news available with respect to the Belgian coal trade is rather scanty, as, indeed, is usually the case at this period of the year. Comparatively little business has been done, and it is difficult to state any new facts when so few present themselves. It appears that 14,880 tons of coal were imported into Belgium in January from Great Britain, as compared with 27,545 tons in January, 1880. The exports of coal from Belgium to France in January amounted to 287,266 tons as compared with 379,274 tons in January, 1880. The whole exports of coal from Belgium in January were 309,875 tons as compared with 390,287 tons in January, 1880. The German coal trade is distinguished by comparatively little animation. The winter having been comparatively mild considerable stocks of domestic qualities remain on hand.

Quotations have not varied in the Belgian iron trade, but it may be remarked that as regards both iron and plates the basis price of 5*l.* 4s. and 7*l.* 4s. per ton begins to be somewhat discussed. Charleroi pig is still fluctuating between 2*l.* 4s. and 2*l.* 8s. per ton, but these quotations are a good deal attacked. The Belgian Government having been appealed to to make a trial of cannon manufactured by the Cockerill Company, has consented to do so. It is understood that the experiments will take place in the Braschaet. A new process of dephosphorisation has been introduced by Herr Osann, of Dusseldorf. It has been tried by Herr Krupp, and is said to be attended with greater facility of production, while all kinds of pig can be dealt with. We have no further details available, and it is necessary, of course, to speak on the subject with all reserve. The export of rails from Belgium in January amounted to 1587 tons, as compared with 1759 tons in January, 1880. Plates were reported to the extent of 2703 tons, against 1944 tons. The Austrian rail-rolling mills are well employed. Their production in 1880 amounted to only 35,000 tons, but orders have been already received this year to the extent of 25,000 tons.

Orders have come to hand tolerably freely in the Haute-Marne, and all the works have an abundance of employment. Coke-made iron has been quoted in the Haute-Marne at 7*l.* 12s. to 8*l.* per ton; and mixed iron at 8*l.* 8s. to 8*l.* 12s. per ton. Machine No. 20 has made about previous rates. In the foundries there is quite as much activity as in the forges. Castings for building purposes are in considerable demand, and it is the same with mechanical articles. In the Longwy group the demand for castings has continued good, and prices have remained firm at 3*l.* 4s. to 3*l.* 4s. 10d. per ton for No. 3. A meeting of forgemasters has been held at Valenciennes, in the Nord; several of those present were in favour of carrying the price of merchants' iron to 7*l.* 8s. per ton, but the majority of those present deemed it advisable to be content with a rise of 4s. per ton. Contracts have just been let for 191,818 tons of cast-steel rails required for the French State railways. The tenders ranged between 9*l.* 2s. 6d. and 10*l.* 2s. 6d. per ton. MM. Schneider and Co., of Creusot, tendered for one lot of 14,036 tons at 9*l.* 7s. 6d. per ton; for another lot of 15,320 tons at 9*l.* 14s. per ton; and for a third lot of 16,975 tons at 9*l.* 8s. 6d. per ton. A contract for 40 locomotives for the French State Railways has been divided between an Alsacian company and the Creusot Works.

Germany appears to be in a much worse position in regard to the supervision of steam boilers than we are in this country. The factory inspectors there have lately presented their reports for 1879, and these disclose a state of matters in relation to the management of boilers which it is to be hoped we have long since got beyond. One gentleman, the inspector for Minden district, reports that most of the boilers there are in a very dangerous condition, and are in charge of unqualified persons. In one case he found the safety-valve held down by means of a portion of a railway metal jammed between it and a neighbouring beam. In many others heavy weights were placed upon the valves, and the gauges were broken. The Bromberg inspector questioned one engineer, and found that he had no idea what the gauges were for. In another he found a woman acting as engineer. She had been employed in that capacity for seven years, and the employer seemed to think that she was highly competent as she had only had one accident—when she broke her arm. It is no wonder after such disclosures that a general insistence is made for the placing of boilers under periodical official inspection, and the formation of training schools for engine and boiler men; and the enforcement of legislative enactments against the employment of any but certificated men are said to be necessary.

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FOREIGN MINES.

PITANGUI GOLD.—The produce obtained for the month of February amounted to 1100 oits. of gold; this produce, valued at 8s. 6d. per oitava, is equivalent to 467*l.* 10s., and has, no doubt, been obtained from the stamping of a portion of the mineral stocked at the mine.

POTOSI.—Extracts from mine captain's report, dated Feb. 7: Main Shaft: This shaft has been sunk 6 ft., but we hope to make better progress during the next fortnight; no change in the size or value of the lode since last reported. It will be necessary to fix the plunger now working at the bottom of the perpendicular at the No. 5 level; this will help the engine, and also make a considerable saving in the fuel. The winze, west of this shaft, is being sunk 12 ft.; the lode appears to be mixed up with a little cantairo, or country. The stope, west of this shaft, at the No. 5 level, is being worked home to the end of the ground; the lode at this point is very large, but is not of a very productive nature.—No. 1 Shaft: This shaft is being sunk 4 ft.; the lode is 5 ft. wide, and produces good rock for the mill. The stope, east of this shaft, looks well as to its productive nature. The winze, east of this shaft, is being sunk 12 ft., but is at present abandoned; as soon as the drift which is now being driven at the No. 6 level is communicated with the winze the sinking will be resumed.—Air Shaft: We shall complete the timbering of this shaft in the course of a few days, when we shall commence to hoist with the vertical engine. The new hoist will be in readiness by the 9th inst. The vertical engine works well, and is well adapted for the work. At the east of this there is an abundance of stoping ground to be taken away.—New Lode: I am pleased to state that this is a fine strong lode, and I would recommend the sinking of this with all possible dispatch, as the lode is in virgin ground, and judging from the appearance of the lode good results may be expected therefrom, and I am very proud of having discovered this lode.—Peru: Attwood's Shaft: This shaft is being cut down from surface 30 ft.; three sets of timber are being fixed, and the further sinking is being resumed. I may also add that some good spots of gold have been seen in the lode in cutting down the shaft.

Extract from manager's letter, dated Feb. 7: During the last fortnight the mill has made a run equivalent to 9½ days of 24 hours with 80 stamps, and has crushed about 330 tons of quartz, which have yielded 400 ozs. of melted gold and 608 ozs. of amalgam, being equivalent to a total of about 670 ozs. of gold. You will observe that these are not very satisfactory results. We have not crushed more quartz for want of miners to break it, as I regret to say we have not yet been able to accumulate any stock neither at the mill nor the mine, and I fear it will be a difficult matter to do so until some special arrangement is come to obtain a steady supply of miners.

— Telegram, March 6: 1¾ ozs. to the ton. Produce of first fortnight 400 to 500 ozs. Cause of small remittance unable to obtain sufficient labour. Nine days of 24 hours full work.

JAVALI.—G. E. Chambers, Feb. 5: Javali Mine: I beg to hand you the following as my repart of the past month's workings, which I consider most unsatisfactory, accompanied as it is by such a very small remittance of gold.—Mine: 41¾ varas were driven in the mine, and 106 varas in the manto. The rise from Pim's to Pollock's tunnel is now through; this I intend to keep for air and communication with Pollock's Tunnel, and a few yards east I am about to make another rise, which will be used as a shoot, through which we shall have greater facility in bringing the quartz from the upper workings to the mill. On the north side of Socorro I have been making a tramway to arrive at the manto, which I am sure must lie to a great depth there, and which is perfectly unexplored; we have now 200 yards ready, and expect to arrive at the manto deposit about the middle of this month. Should this turn out as good as I expect we shall have quite a new supply of manto to work upon. Concepcion Mine last month yielded about 70 tons of very fair quality manto. The sinking under Nispero will be resumed this month, the water having entirely disappeared. We are now driving east and west; as yet the ground only shows a fair quartz, but gives hopes of very great improvement.—Mill and Remittance: To my very great surprise and annoyance upon putting the mill to work again after the departure of the mail I found that our water-power had decreased to such an extent that we were not even able to work 15 stamps; seeing at once that there was no hope of more rain, I immediately had the engine put into working and attached. Such an early dry season is perfectly unprecedented. Never so long as I have been here have we failed to have water-power in January, and, calculating on this, I had only set contracts for firewood in December, thinking that even then it was premature: 25 stamps worked 20 days, crushing 1760 tons of quartz, which yielded 330 ozs. gold, making an average of 3 dwts. 18 grs. The total remittance, including the result of the tailings mills, are 372 ozs.—Tailings Mill: There are treated 200 tons, which yielded 42 ozs. gold. As the water-power is too small to work all the pans I shall entirely stop this month, and only collect the blanket sand and expose it to the action of the air. The tramway from Esperanza is almost ready, as also is the foundation for the stamps.—Receipts and Expenditure: The expenditure was 942*l.* 9s. 6d.; the remittance is valued at 900. On account of the shortness of this month, I cannot give you very great hopes of a good remittance by next mail; but, nevertheless, I feel confident of being able to do a little better than last month.

FLAVILLA.—Mr. Gundry writes, Feb. 20: "In the latter part of last month and the early part of the present the south drift in the Brook's shaft looked very well, since which time the ore has almost entirely died out, but the indications were good, and we followed on, and the result is it looks much more promising again, and I hope we shall be able to find some good ore in a few days. The face now shows some very fine-looking lead ore. Up to the present time in following this pipe of ore there has been a large percentage of copper in the ore; now the copper has left it, and it now shows a spar interspersed with galena. This is and has been a good looking prospect ever since we started, and as it is whole ground we may yet find a good vein of ore here. In the No. 1 we sunk through a layer of shale formation about 20 ft. in thickness, and I fully expected to strike the footwall when we get through that, but instead we find a rock composed of sand and lime, and pretty hard, and as we were very near the break, I concluded to drift off a few feet to see if it would change in its nature. As advised by Mr. J. R. Walker, we reduced the force one man and put two others that were working in Brook's north drift and the branch incline, to prospect through the mine generally to try and find a little more ore. This we have been doing since the 1st inst., but have not found any ore to speak of yet, although we have a fair prospect on the east side of the mine near the Big Break, which is in producing some low grade lead ore, which will not pay to ship. Our expenses for the present month will be about $700, and we shall have at least 35 cords of wood to run on. I am (as advised in your last letter to me) being as careful as possible, and will not spend any more than is absolutely necessary to carry on the works."

RUBY AND DUNDERBERG CONSOLIDATED.—Report on above mines for the week ending Feb. 20: Dunderberg: The 750 ft. level has been advanced 8 ft. during the week; total, 41 ft. from the shaft. The ore in the stope in the back of the 600 ft. continues good; no change worthy of notice since last report. The 600 has advanced 20 ft. during the week; total, 475 ft. from the shaft; there is about 2 ft. of low grade ore in the face of the drift at present, and it looks more favourable for ore than it has for some time. The ore in the stope below the 500 at the north winze is about 3 ft. wide of fair grade. The drift from the south winze, 40 ft. below the 500, has not been advanced during the week as we are now engaged in raising up in the ore to make connection with the 500; progress this week, 10 ft. At the south stope above the 400 the ore is about 2 ft. wide. The south drift from the west cross-cut on the 400 has been advanced 12 ft. during the week; total, 162 ft. from the west cross-cut. The face of this drift is now in good ore; the full size of the drift—*i.e.*, about 4 ft. wide. The 300 ft. wess cross-cut has advanced 10 ft.; total, 436 ft. from the north drift from the old Incline. Have shipped 104 tons ore this week, and have 41 men at work besides several tributers.—Bullwhacker: The rises from the 250 has been connected with the main incline; work has been suspended in this rise for the present as the ore is so low grade that it will not pay for extraction. The 250 has advanced 36 ft. during the week, which makes a total of 100 ft. run by contract; a small seam of ore about 1 ft. wide was encountered during the week, which will be prospected further as soon as practicable. The main incline has progressed 10 ft. during the week; total, 50 ft. below the 250. Have shipped 14 tons of ore and have nine men at work.

— Telegram received from Eureka to-day, March 15: The week's run from the furnace was $5000, from 123 tons of ore, producing 16½ tons of bullion. The shipments of the week were 166 tons.

COPIAPO.—Jan. 17: I beg to forward you the usual monthly report, and the setting of contracts for the same. Fletcher's shaft to sink below the 180 fm. level was set at the commencement of this month to two men, at $40 per metre, but since the contract was given the footwall of the shaft having presented a very favourable appearance for the presence of ores the shaftmen were put to break into this wall on day account, and I am happy to inform you with good results, and that below the thin covering of poor ground, or the horse on the footwall part of the shaft, they have struck good yellow ore; that is, as far as we have been enabled to see of it at present. We have broken down some very good slabs up to date. The course of ore though appears to be going south and not north, as in the cross-cut driving in the 180 north they have also struck the lode, but it is poor. In the southern end it appears to be looking better than in the shaft. The 180 to drive north, set to three men, at $20 per metre. The lode yields 5 tons of yellow ore per fathom. In the present end the lode appears to be making a split, one part, which is poor, leading undoubtedly to the winze sunk some months ago to this level from the 170. The other part carrying the ore is running more northerly. I have put the men to carry the lode in the latter direction—on the ore.

The 180 to drive south, set to two men, at $20 per metre; the lode carried in the end will produce 3 tons of ore per fathom. I intend to put on a man behind them as soon as one comes about to strip down the part of the lode discovered in the footwall of the shaft, and which appears to be improving in coming in this direction. As we were troubled a great deal in sinking our last lift on account of the water in the shaft there is a cross-cut set to drive east in the 180 north, to two men, at $70 to complete; to be 6 ft. wide by 7 ft. long, to make room for a wooden cistern for the coming water out of the shaft; by doing this we shall avoid a great many of our former difficulties by giving less trouble to the shaftmen, and facilitating the drawing of the water to surface. This will be also proving the ground for a short distance in this direction or east, and if thought advisable we might continue it to cut the Bronce lode, distant about 15 metres. The 170 to drive north; set to two men, at $11 per metre; the lode is very hard, containing an occasional stone or two of ore, but not sufficient to value, but still presenting its usual promising appearance; driven last month 3·40 metres. The 170 to drive south, set to two men, at $18 per metre. The lode here has changed a great deal since my last report, having become a great deal softer but still of the same class of ores, with the exception of a small admixture of black ores, presenting the same appearance that I have noticed at other points in the transition from the coloured into the yellow ores. The lode is also narrower, being at present 3 ft. wide, and yields 4 tons of ore per fathom. Driven last month 3·95 metres. The winze sinking below the 180 south is down to the horizon of the 180, and to communicate it at this point with the level driving south from Fletcher's shaft as quickly as possible for the purposes of footway, &c. I have set a level to drive north at the bottom of the winze at the 150 to three men, at $18 per metre. The lode is 2½ ft. wide, and will yield 3 tons of ore per fathom. In the 160 north 1 have set a start to drive east, to cut the footwall lode, to one man at $10 per metre. The 160 fm. level south set to one man at $6 per metre. This man cut the lode on the southern side of the cross-course on Thursday last, the 6th instant,. and at the same time a plentiful supply of water, which has kept in working the engine night and day until the present. has abated but very little, but we have managed to put in a dam a little to the south of the winze sunk to the 170, and by this means we are enabled now to draw our ores and stuff for 12 hours, and it requiries the remaining 12 hours for drawing the water. This is the difficulty we have to contend against at the bottom of Fletcher's shaft; the engine being kept going all the time renders it impossible for the men to keep on taking out the footwall part of the lode in the bottom or sinking the shaft. But I sincerely trust we shall meet with the same result in the water coming from this end that we did in the levels above, where it became drained to a great extent after a few days. The lode on the other side of the cross-course is poor but kindly. The 150 north is set to one man at $20 per metre; the lode is 3 ft. wide, and yields 2½ tons of ore per fm. Driven last month 1·65 metres. The 150 south is set to one man at $14 per metre. The lode is getting to be a little wider, being now about 20 in., and also looking a great deal more kindly, and yielding some small eyes of ore. Driven the last 0·90 metres. The water is drained from here to the level below since the lode was cut at that point. The 140 north is set to one man at $2 per metre. The lode is 3 ft. wide, and looks very promising. At present it contains a great quantity of iron, but this appears to be clearing itself, and shows some fine spots of ore in the end. Driven last month 2·10 metres.

The chiflon to sink below the 140 north, set to one man, at $10 per metre; the lode yields 1 ton of ore per fathom. The chiflon to sink below the 140 south, set to one man, at $10 per metre; the lode at the commencement of the month was quite poor, but now it is producing a few stones of ore. In the 60 south we are going through the run we have here. I can scarcely tell what distance it extends, but I hope we shall get through it before the close of the present month, when we shall be enabled to resume the driving of this end. The cross-cut driving to communicate with the engine-room is set to two men, at $30 per metre. I hope this communication will be made during the month, when these two men will be put to excavate the ground south of the shaft in the place selected for placing the new engine. I have decided on ordering a larger engine, as our lode in the 180 would, from present appearances, seems to warrant it. We are now preparing plans and specifications for the same, and when finished will forward them. The level driving at the bottom of the chiflon from surface towards Halland's shaft is set to one man, at $20 per metre; the lode is poor; driven last month 3·60 metre. We have started Halland's shaft, in which appears to be a very promising lode, from which we are extracting occasional stones of ores. The chiflon to sink in the Alacama mine to two men, at $15 per metre; the lode is poor; sunk last month 3·80 metres. We have 12 men stoping in the backs of the 120 north, the backs of the 160 and 150 south, and the 140 north. I am afraid we shall go behind in our returns this month on account of the great influx of water and the scarcity of miners for stoping, but we shall do the best we can to keep up our production. We have 22 men working on tribute above the 130. The quantity of ore extracted during the past month amounts to 320,000 kilos., or 320 tons, with an estimated percentage of 21 per cent., taken from the following points:—

Fletcher's shaft, 1 ton; the 170 fm. level south, 12 tons; the 170 winze, 8 tons; the 150 end north, 2 tons; the 170 stope north, 177 tons; the 160 stope south, 10 tons; the 150 stope north 30 tons; the 150 stope south, 13 tons; the 140 stope north, 27 tons; tributers' returned, 40 tons: total, 320 tons.—Checo Copper Mine: During the past month the 40 end on north lode, by one man, at $13 per metre, has been driven 2·70 metre. The lode is still of a very strong character, and yielding ½ ton of ore per fathom. Chiflon below this level, sinking by one man, at $12 per metre, has been sunk 4·15 metres. This point appears to be promising, and yielding good stones of ore.

We have seven men stoping in the back of the 50, and six in the back of the 40. The 52 cross-cut, at Harmon's, by one man, at $18 per metre, has been driven 105 metres; there is no change to notice here. December production and estimated percentage 400 kilos. of 13 per cent.—Silver Mine: The chiflon sinking below the bottom level, by two men, at $15 per metre, has been sunk 4·14 metres; the ground here has become softer, which does not make it look more unkindly. We have two men still extracting a little ores. Estimated value of Dulcinea December produce, $20,252; expenditure, $9000; profit, $11,252. Estimated value of Checo December produce, $1356; expenditure, $1200; profit, $156. Estimated loss at Silver Mine for December, $100; total profit for December, $11,308. Exchange on England, 29½; latest price of copper in England, 62*l.* 10s. to Jan. 6.—T. R. HALL.

PIERREFITTE.—March 11: The manager reports as follows:—There is no material change in the lode in the different stopes, upon the whole. No. 2 stope over No. 1 level yields 5 tons of lead ore and 2 tons of blende per fathom. No. 2 stope below No. 1 level yields 10 tons of lead ore and 2 tons of blende per fm. No. 5 stope yields 1 ton of lead ore and 7 tons of blende per fathom. No. 7 stope yields 5 tons of lead ore and 3 tons of blende per fathom. No. 8 stope yields 7 tons of lead ore and 3 tons of blende per fathom. The portion of the lode being carried with the end in No. 2 level yields 7 tons of blende and ½ ton of lead ore per fathom. The last parcel of 65 tons of lead ore sold to the Royal Asturian Company will be sent off at once. Next week we hope to forward you sample of a 100 ton parcel of lead ore of second quality. The new stone-breaker will, all well, be set to work next week. There have been 106 tons of crude ores sent down over the cable during the past week, and about the same quantity broken from the stopes.

ENGLISH-AUSTRALIAN GOLD.—The directors have received the following advices from Australia:—Mr. Mark Pollard (Fryerstown, Jan. 31) writes: In the 420 ft. level, in No. 1 rise junction of the slide and lode, I have four men working on quartz from this rise driving south on leaders of quartz still in the western wall; see gold ground very hard quartz payable. I expect to get more as I go south. In the 320 ft. level No. 1 rise stoping going south are looking just the same, also the stope from No. 2, towards No. 1 rise, ground very hard, but quartz payable. In the 280 ft. level we have not stoped out much ground from this place; this fortnight we have been filling up the ground, and putting in timber and preparing for stoping north and south. In the 150 ft. level I have removed the two men who are stoping on the eastern side of this drive to the south side of the cross-cut to work a block of stone towards the boundary of the New Era Company, the quartz very small going north; the stopes on the back of this level are looking just the same. I have a new splice of stone on the western side going north, have not seen any gold in them; see plenty of jack, which is a good indication for gold. We have crushed 377 tons of stone this fortnight; result, 81 ozs. 7 dwts. retorted gold; have not measured any ground; have not crushed full time on account of the main rods parting. In the eastern shaft battery was standing still for 24 hours.

[For remainder of Foreign Mines se's to-day's Journal.

PARIS EXHIBITION, 1878.

GOLD AND SILVER MEDALS AWARDED for Steam-Engines & Boilers, also the Special Steam Pump, and Compound Pumping Engine.

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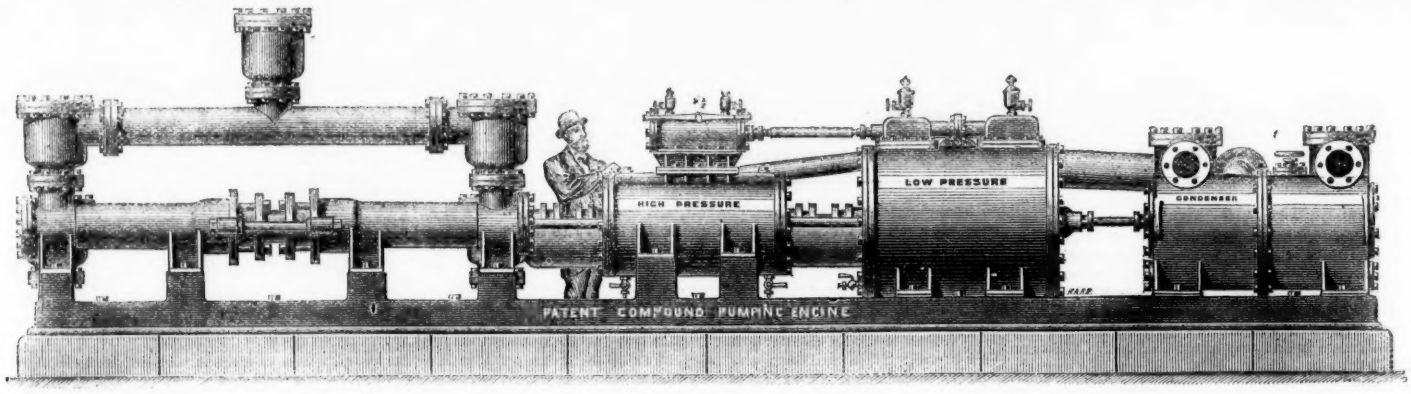
For use in Mines, Water Works, Sewage Works,

And all purposes where Economy of Fuel is essential.



TANGYE'S DIRECT-ACTING COMPOUND PUMPING ENGINE, WITH AIR-PUMP CONDENSER.

TANGYE'S COMPOUND PUMPING ENGINE COMBINES SIMPLICITY, CERTAINTY OF ACTION, GREAT ECONOMY IN WORKING, COMPACTNESS, AND MODERATE FIRST COST.

This Engine will be found the most simple and economical appliance for Mine Draining, Town Water Supply, and General Purposes of Pumping ever introduced, and as regards Mine Draining, the first cost is very moderate compared with the method of raising water from great depths by a series of 40 or 50 fm. lifts. No costly engine-houses or massive foundations, no repetition of plunger lifts, ponderous connecting rods, or complication of pitwork, are required, while they allow a clear shaft for hauling purposes. In this Engine the economical advantages resulting from the expansion and condensation of steam are very simply and effectively obtained. The steam after leaving the high-pressure cylinder is received into and expanded in the low-pressure cylinder, and is thus used twice over before being exhausted into the condenser or atmosphere.

The following first-class Testimonials will bear evidence as to the efficiency and economy of the Engine:—

TESTIMONIALS OF TANGYE'S COMPOUND PUMPING ENGINE.

21" Newcastle and Gateshead Water Company, Newcastle-on-Tyne, Oct. 20, 1879.
36 × 10" × 48" COMPOUND CONDENSING STEAM PUMPING ENGINE.
Messrs. Tangye Brothers.

GENTLEMEN,—In reply to your enquiry as to the efficiency of the two pairs of Compound Condensing Engines recently erected by you for this company at our Gateshead Pumping Station, I have great pleasure in informing you that they have far surpassed my expectations, being capable of pumping 50 per cent. more water than the quantity contracted for; and by a series of experiments I find they work as economically as any other engine of the compound type, and will compare favourably with any other class of pumping engine. By the simplicity of their arrangement and superior workmanship they require very little attendance and repairs, and the pumps are quite noiseless. A short time ago I had them tried upon air by suddenly shutting off the column, and found they did not run away, thus showing the perfect controlling or governing power of the Floyd's Improved Steam-moved Reversing Vale. I will thank you to forward the other two pairs you have in hand for our Benwell Pumping Station. Yours respectfully,

(Signed) JOHN R. FORSTER, Engineer.

21" The Chesterfield and Boythorpe Colliery Company (Limited), Registered Office, Boythorpe, near Chesterfield, Oct. 1, 1879.
36 × 12" × 48" DOUBLE RAM COMPOUND CONDENSING STEAM PUMPING ENGINES.
Messrs. Tangye Brothers. Supplied in January, 1878.

GENTLEMEN,—Referring to the above, which we have now had working continuously night and day for the last 12 months, we are glad to say that it is giving us every satisfaction. It is fixed about 400 feet below the surface, the steam being taken down to it at pressure of 45 lbs. per square inch. We can work the pump without any difficulty at 28 strokes per minute=224 ft. piston speed. The pumping power is enormous. The vacuum in the condenser being from 11½ to 13 lbs. The pump is easily started, and works well and regularly. The amount of steam taken being much less than we anticipated. We consider the economy in working very satisfactory indeed. The desire for power and economy at the present day will certainly bring this pump into great requisition. Yours truly,

(Signed M. STRAW, Mana

SIZES AND PARTICULARS.

Diameter of High-pressure Cylinder ..... In.		8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder ..... In.		14	14	14	18	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder ..... In.		4	5	6	5	6	7	8	6	7	8	10	7	8	10	12
Length of stroke ..... In.		24	24	24	24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate		3900	6100	8800	6100	8800	12,000	15,650	8,800	12,000	15,650	24,450	12,000	15,650	24,450	35,225
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder	Non-condensing...	360	330	160	360	250	184	140	360	264	202	130	360	275	175	122
Ditto ditto	ditto—with Holman's Condenser...	480	307	213	480	333	245	187	480	352	269	173	480	367	234	162
Ditto ditto	ditto—with Air-pump Condenser...	600	384	267	600	417	306	335	600	440	337	216	600	459	203	203

CONTINUED.

Diameter of High-pressure Cylinder ..... In.		16	16	16	16	18	18	18	18	21	21	21	24	24	24	30	30
Ditto of Low-pressure Cylinder ..... In.		28	28	28	28	32	32	32	32	36	36	36	42	42	42	52	52
Ditto of Water Cylinder ..... In.		8	10	12	14	8	10	12	14	10	12	14	10	12	14	12	14
Length of stroke ..... In.		36	36	36	36	48	48	48	48	48	48	48	48	48	48	48	48
Gallons per hour approximate		15,650	24,450	35,225	47,950	13,650	24,450	35,225	47,950	24,450	35,225	47,950	24,450	35,225	47,950	35,225	47,950
Height in feet water can be raised with 40 lbs. pressure per square inch in cylinder	Non-condensing..	360	230	160	118	456	292	202	149	397	276	202	518	360	264	562	413
Ditto ditto	ditto—with Holman's Condenser...	480	307	213	154	603	389	269	198	528	363	269	691	480	352	750	550
Ditto ditto	ditto—with Air-pump Condenser...	600	384	267	191	750	486	337	248	660	450	337	864	600	440	937	689

PRICES GIVEN ON RECEIPT OF REQUIREMENTS.

Any number of these Engines can be placed side by side, to work in conjunction or separately as desired, thereby multiplying the work of one Pump to any extent.

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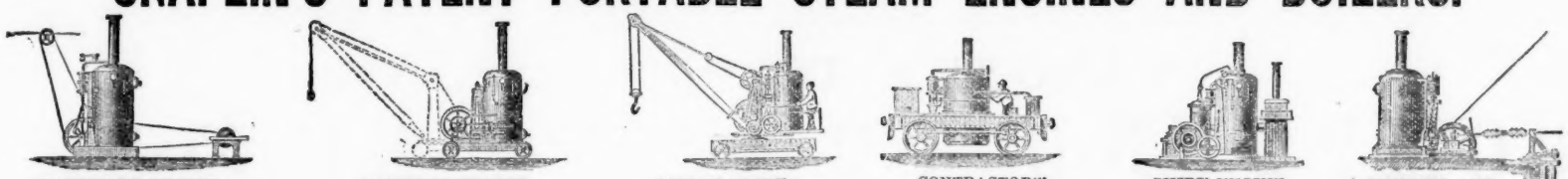

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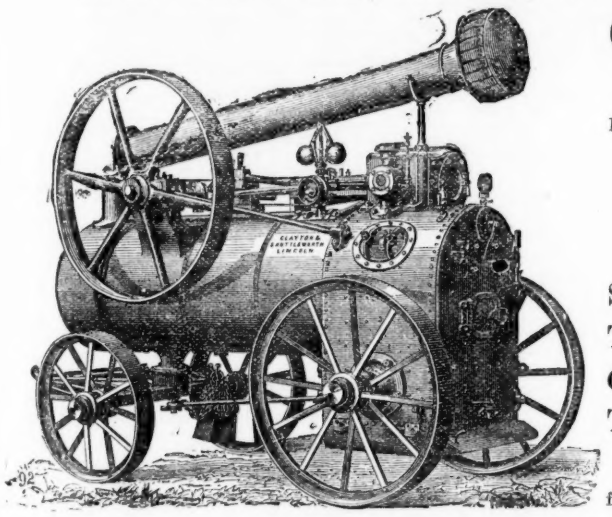

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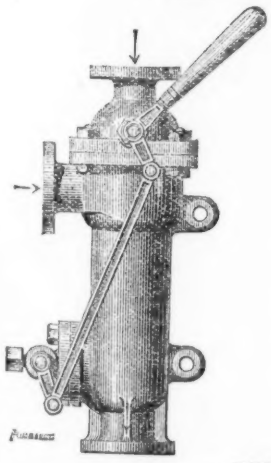

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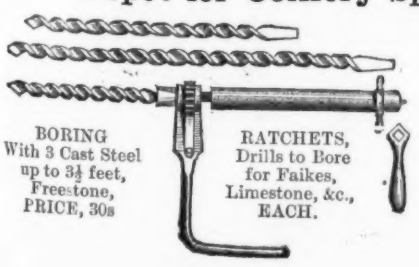

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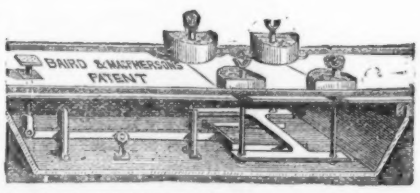

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This manufacture embraces all the latest improvements for use in Blasting in Mines, Quarries, or for Submarine Purposes; and is adapted for exploding Gunpowder, Dynamite, or any other Explosive; and is made suitable for exportation to any part of the world

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This Turbine is applicable to all heights of fall. It works immersed in the tail-water, so that no part of the fall is lost, and the motion of the Wheel is not affected by floods or back-water.

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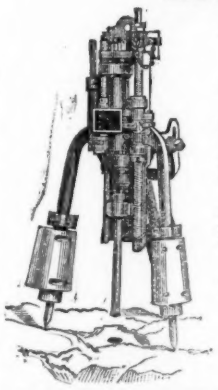
(BEAUMONT AND FOSTER'S PATENT.)



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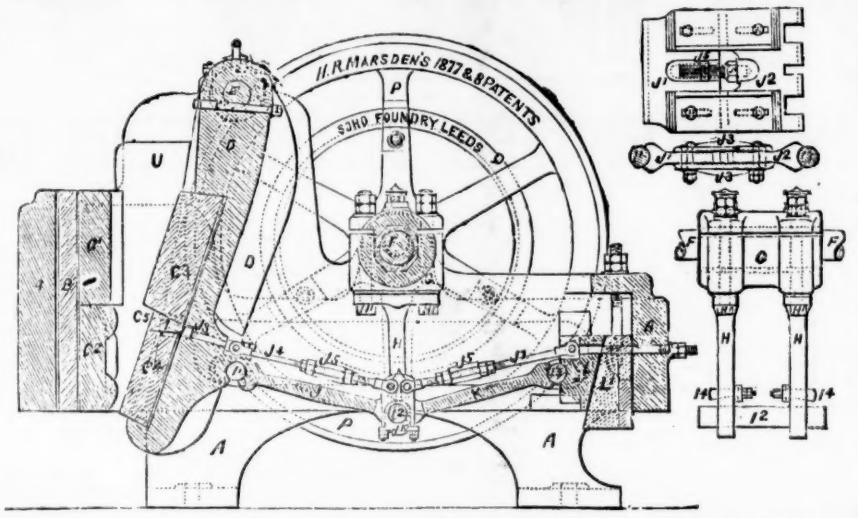

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DEAR SIR,—We have adopted your Stone Breakers at many of the mines under our management, and are pleased to be able to state that they have in all cases given the greatest satisfaction.

We are, yours faithfully,
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A SAVING OF FIFTY-FIVE HANDS BY THE USE OF ONE MEDIUM-SIZED MACHINE.

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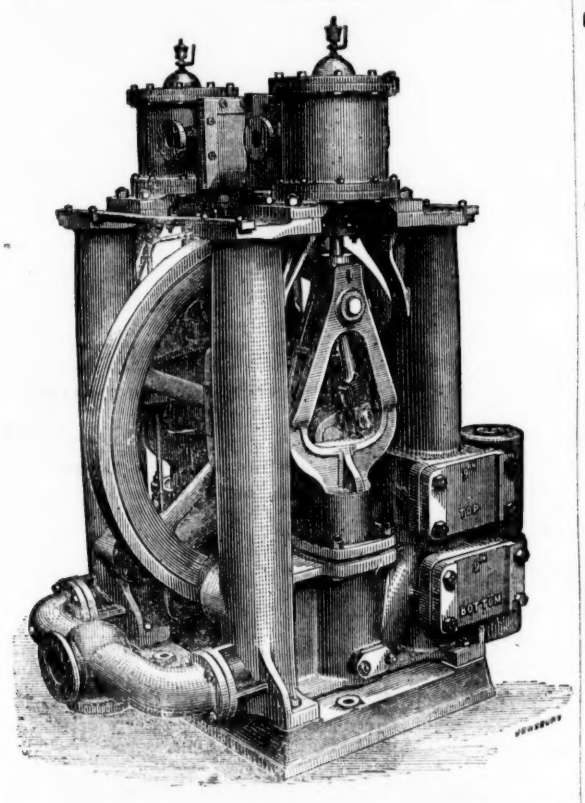

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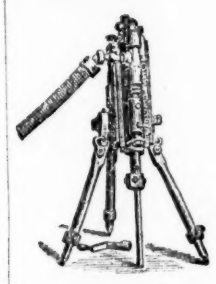

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